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ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2167

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CEMA INTEGRATION DEVELOPMENTS REVIEWED

Prague HOSPODARSKE NOVINY in Czech 24 Jul 81 pp 1, 4

[Article by Engineer Antonin Indruch, Cand Sci, Office of the CSSR Government Presidium: "Sofia: To the Point and Openly. Development of Integration Among CEMA Member Countries"]

[Text] On 2-4 July 1981 in the capital of the Bulgarian People's Republic, in Sofia, the 35th Session of CEMA took place. The program of this year's session made it possible to deal with all of the important problems of the state and development of the CEMA economic community as it included not only the usual report on CEMA activities, but also an evaluation of the results of the Comprehensive Program achieved over the past 10 years, coordination of plans for the immediate period 1981-1985 and outlining the basic orientations for continued cooperation in the eighties.

The complexity and demanding nature of dealing with the tasks of economic development and cooperation of CEMA member countries in the upcoming period are affected by a slowdown in the development of world economy and deterioration of the international situation. Difficulties in the world economy, particularly the monetary and structural crisis in the capitalist economy, development in the field of fuels and energy as well as wide-reaching changes in price relations undoubtedly affect also the economy of socialist countries.

Member countries of CEMA entered a new decade of their development characterized by exhaustion of extensive growth factors, slowdown in the rate of developing their own fuel and material resources, and continuation of the tendency toward slower overall economic growth. The complexity of today's situation is accompanied by significant changes in the internal as well as external factors of economic growth. Under these conditions promoting increased efficiency of cooperation among member countries of CEMA is markedly gaining in importance. Implementation of measures for long-term goal-oriented programs of cooperation is an important factor in stabilized growth of social production, and in improving its technical level and efficiency. Great reserves can be found in this context in systematic and mutually coordinated structuring of branches of the economy and in coordination of investment policies. An impetus toward continued upgrading of CEMA activities in this direction was provided at the 26th CPSU Congress by the general secretary of the CPSU Central Committee, Comrade L. I. Brezhnev: "Life demands that coordination of plans be accompanied by coordination of the overall economic policy. On the daily agenda appear even such problems as bringing closer together the structures of economic mechanisms, further development of direct contacts between ministries, associations and plants which participate in cooperation, and establishment of joint enterprises. There are possibilities for even other forms of combining our efforts and resources. Many great tasks await us in this direction. Obviously it would be useful if they could be collectively discussed in the near future by leading representatives of fraternal countries."

That is also why one of the key points on the agenda of the 35th CEMA session was discussion of the results attained in coordination of the five-year plans for the development of the national economies of CEMA member countries for the years 1981-1985 and a proposed Agreed upon Plan of Multilateral Integration Measures for the same period.

The basic objective of economic policy until the year 1985 consists of maintaining and further improving the quality of the attained high standard of living of the populace and its social securities in connection with the results that will be achieved in the development of the national economy even under substantially more difficult external as well as internal conditions of economic development.

Attainment of that objective requires systematic promotion of conspicuous increase in intensification of the Czechoslovak economy, improved efficiency and quality of all labor for implementing effective structural changes in production as well as in consumption based primarily on maximum utilization of the results of scientific-technical development to further strengthen participation of the CSSR in the international socialist division of labor, particularly with the Soviet Union.

Attainable inputs with respect to economic development in the years 1981-1985 permit us to project a 14-16 percent increase in the generation of national income, an 18-20 percent increase in industrial production and a 10 percent increase in agricultural production. At the same time, however, one must take into consideration the worsening exchange rates in regards to both socialist and nonsocialist countries. Thus, we must also take into account a diminishing dynamism in the growth of national income utilization in the years 1981-1985. The results of coordination of plans for the national economy can, for this reason, be considered to represent an important stabilizing factor backing up input and output of two-thirds of the volume of our foreign trade and facilitating completion of projects for the five-year plan.

In monetary value, this involves in the case of the CSSR a turnover in the amount of more than 71 billion in transferable rubles (in 1980 prices). At the same time, Czechoslovak exports to CEMA member countries are to increase by roughly 29 percent and imports by 18 percent. The ratio of exports outstripping imports applies primarily to relations between the CSSR and the USSR.

In assessing the results of coordination of five-year plans the prominent factor in the foreground is providing the Czechoslovak economy with fuels, energy and raw materials. In the course of plan coordination we essentially succeeded in securing for our national economy importation of the basic types of fuels and energy at the level of 1980 which, together with relative savings of energy amounting to 12 million tons of standard fuel over 5 years, should facilitate the contemplated increase in social production during the Seventh Five-Year Plan. At the same time it turns out that even now we must begin preparation of measures for precluding any worsening of the situation in this area after 1985. By this are meant additional measures for savings of energy and maximum economy in utilization of fuel and energy sources that should become available by that time. Use of our own Czechoslovak know-how alone will not suffice, there will be need for a widely based exchange of experiences and a coordinated approach by all interested countries in this direction. At the same time it will be necessary to work out proposals for further utilization of nuclear energy and proposals for putting new, unconventional sources of energy to use in the economy.

An important consideration is the assuring of supplies to cover the CSSR demand for metals. In view of the high demands metallurgical production places on energy, on the overall limited sources of energy--particularly coking coal--for the current five-year plan and for the foreseeable future we cannot count on continued construction of capacities for basic metallurgical production, and continued meeting of demand will have to be based essentially on utilization of existing capacities. To provide for the contemplated development of the national economy under these conditions, specifically as regards a 33 to 35 percent increase in machinery and electronics production, we must achieve relatively substantial savings in the consumption of metals, at an annual average of 4.5 to 5 percent. We are further obviously interested in maintaining deliveries of iron ores at the 1980 level, not only in regard to the overall quantity of metal, but in regard to its structure, with which deliveries have been traditionally completed.

Our cooperation with CEMA does allow us to deal with the problems of consumption of fuels, energy and raw materials, but that brings even more prominently into the foreground problems regarding efficiency in the processing of these materials. Our orientation must not be exclusively toward the problem of raw material sources, but primarily toward problems of fuel and material conservation and the quality of the evaluative process. The way we process materials, how we utilize raw materials or the amount of effort that goes into creating value and the extent of attaining these values indicates the qualitative level of the reproduction process. Approaches to lowering the demand for material and energy must be sought primarily in production management itself, in the technical conditions relevant to consumption and by structural profiling of the economy.

A complex and considerably multifaceted task on the next 5 years will be an even more intensive incorporation of our processing industry, specifically the machine-building industry, into international specialization and cooperation which will ultimately facilitate domestic specialization and narrowing down of assortments as well as a change in the structure of industrial production. It was stated at the 35th CEMA session that machinery production in CEMA member countries had increased in the Seventies to a level 2.1 times [higher than during the 1960s] and that a substantial contribution to this attainment came from specialization and cooperation in production that has organized on the basis of applicable agreements. This positive development also became reflected in mutual trade among CEMA member countries in machinery and installations, which increased in the seventies 3.5 fold, whereby the share of specialized deliveries for export increased from 18.1 percent in 1970 to 36.4 percent in 1980. The share of our exports of specialized products in the overall exports to CEMA countries increased from 11 percent in 1975 to 20 percent in 1980 and the share of Czechoslovak exports of specialized machinery in their overall exports to those countries went from 15.9 percent to almost 29 percent. In absolute values, our exports of specialized machinery products to CEMA countries increased 13 fold in 1980 in comparison with 1970 and earned more than 1 billion transferable rubles.

Of particular significance, both from the viewpoint of economic impact and the complexity of solutions, are agreements which form the basis for international cooperation in the development and production of computer technology, as well as specialization and cooperation in the production and delivery of installations for nuclear power plants. Cooperative deliveries of installations for nuclear power plants, together with technical aid provided by the USSR, became the basis for implementation of the program for construction of nuclear power plants through the year 1990, with a total output of 37,000 megawatts.

Specialization and cooperation in production comes to the fore as one of the important factors in increasing the productivity of social labor and should be based on an integrated concept of development aligning the external activity of branches and sectors with intents within the economic sphere. The present participation by Czechoslovak industry, especially the machinery industry, in specialization and cooperation in production cannot still be considered as commensurate to our needs and potential.

Thus, e.g., in CEMA member countries great duplication still exists in the preparation and production of many products which have identical or analogous parameters. Specialization and cooperation still does not apply in all aspects to the entire process of production, research, planning and design, standardization and unification. Development of cooperation in the field of components, spare parts and elements is still lagging.

A special category is formed by problems pertaining to the domestic market where in the case of consumer goods it is necessary to look for much more intensive ways of enriching the domestic market of our states with available resources. Solution of this problem could be instrumental in substantially expanding the exchange of assortments of individual types of appliances such as, for example, washing machines, refrigerators, black-and-white and color television sets, radios, tape recorders, record players, all video and audio equipment, etc.

Shortcomings also exist in that there still is not a collective approach and coordination with respect to certain measures which are carried out; for example, with respect to the purchase of licenses from third countries, particularly those dealing with finished products. Similarly, the mutual provision of information on long-range directions involving interconnected development and with regard to the demand for, and offers of supply of, technological innovations in CEMA member countries. There are even porblems with regard to the introduction of purchased licneses into the production process, including inadequate interest on the part of enterprises in utilizing these licenses.

Thus far, the possibilities of increasing the effectiveness of production on the basis of international specialization and cooperation are inadequately utilized, particularly as a result of inadequate scientific and technical preparation and the planning of specialization, its technical-economic justification and shortcomings in the existing system of agreements. Another brake is also the fact that a number of pricing, foreign exchange and fiscal questions have not yet been resolved: the question of maintaining the value of demands and commitments, expressed in transferrable rubles; further, the inadequate utilization of the potential presented by international organizations and the scant amount of coordination which exists with regard to third countries in a given area.

The advantages of the international socialist division of labor--particularly its long duration, stability and programmed nature--must not lead to the underestimination of guarantees with respect to the fulfillment of commitments to assure high quality and a good technical level of production, with an emphasis on the development of world science and technology in a given area. Furthermore, it is intolerable that the task of direct consumers should remain as passive as it has been; that deadlines for the modernization of products should not be set, and that manufacturers should be allowed to continue to deliver technically obsolescent products. This way we would reach a situation in which we would have a large number of specialization and cooperation agreements on file, but these agreements would, in not insignificant numbers, assure the production of obsolete products. Progressive treaties would also be changing into instruments for the preservation of technical obsolescence, which would lead to a reduction in the interest on the part of consumers in such products. All of these problems must gradually but resolutely be solved, since the perfection of the mechanism involved in the further spread and deepening of specialization must become a part of the permanent process.

Among the important problems discussed at the CEMA session were problems of scientific and technical cooperation. On the basis of implementation of the Comprehensive Program over the past decade considerable expansion has occurred in scientific and technical cooperation among CEMA member countries. There was a substantial increase in the number of joint research projects which grew from 600 thematical tasks in 1970 to 1,400 in 1980. In the same period the number of projects completed per year increased from 1,100 to 2,000. More than 16,000 projects from the area of theoretical and applied research were completed over the past decade.

Czechoslovak research organizations participated in the solution of a major part of the above mentioned tasks, which is substantiated, among others, also by the fact that in the past 5 years they received from cooperating organizations in other member countries of CEMA over 20,000 sets of scientific and technical documentation, which is more than double compared to the period 1971-1975. Approximately the same number of documentation sets were handed over by the CSSR to other CEMA member countries.

To increase the responsibility of participating parties for attainment of specified objectives of cooperation, primarily in regard to technical parameters and agreed-upon deadlines, Czechoslovakia as a participating side negotiated almost 150 international multilateral and bilateral agreements between 1970-1980 regarding scientific and technical cooperation and another series of pacts regarding scientific and technical cooperation at scientific and technical organization level.

Proposals for further improvements in scientific and technical cooperation, worked out by the CEMA Council for Scientific and Technical Cooperation, conform on the whole to the high demands that all of us place on the fields of science and technology. Their systematic implementation in the practical activities of the Council organs must now be regarded as the key factor.

The head of the Czechoslovak delegation to the 35th CEMA session, Premier L. Strougal, in his address put particular emphasis specifically on scientific and technical cooperation. His thoughts on the subject lead to the conclusion that scientific and technical development is one of the key prerequisites for attaining the goals that member countries opted for achieving in the coming years. Even though CEMA member countries have at their disposal a scientific and technical base which is truly gigantic on worldwide scale, and achieves top results in individual cases, in several fields they have not managed to match the level of advanced capitalist countries. Aggravated conditions in worldwide economic competition, the need for decreasing the dependence on capitalist markets for selected new technological sectors, as well as the ever more pressing need for transition to intensive development of the national economy, call urgently for deeper and improved cooperation in this area.

Help toward this end must be provided by achieving harmony in the scientific and technical policy of CEMA member countries, joint identification of priority problems and combining of the efforts and resources of interested CEMA member countries toward their solution. Of particular importance is the organization of cooperation throughout the reproductive cycle, organic linkage of scientific and technical cooperation, specialization and cooperation in production in the interest of timely and effective application of the results of research and develomment in economic practice.

Attainment of a basic reorientation in the area of scientific and technical cooperation is of key importance to CEMA member countries. We cannot underestimate the results achieved in the past period, in individual cases they even were at a very high level. Nevertheless--even through the scientific, research and developmental base of the CEMA community is extensive--it shows lower productivity of labor in comparison to the world level, accompanied by a slow rate of introduction of scientific and technical findings into social production. Current contributions made by science and technology or their utilization in CEMA member countries are far from satisfactory. That fully applies to Czechoslovakia as well. In connection with projects for the Seventh Five-Year Plan we must more energetically and more decisively implement intensification and stepped up efficiency in developing the national economy by systematic implementation of measures for improving the system of planned managemnnt of the national economy at all levels of management and in all phases of the reproductive process.

Participation of Czechoslovakia in the development of socialist integration is an important element in the process of intensification of the Czechoslovak economy. The results of implementation of the comprehensive Program for the past 10 years brought tangible proof of the beneficial nature of these efforts. In the same vein, the thematic contents of long-term goal-oriented programs of cooperation by CEMA member countries through the year 1990 opened up new approaches to dealing with topical problems that are facing the economy of the CSSR, as well as that of other member countries of the community.

Economic and scientific and technical cooperation among socialist countries is being implemented under the leadership of fraternal communist or workers parties. It is the result of their constant cooperation and attention which they devote to these problems. The resolutions of the 35th CEMA session represent another step toward deeper cooperation in the framework of our community of nations with the objective of upgrading the integration process to a qualitatively higher level.

8204
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NEW SOVIET-GDR BOOK ON SOCIALIST ECONOMIC THEORY REVIEWED

East Berlin EINHEIT in German Vol 36 No 6, Jun 81 signed to press 13 May 81
pp 618-620

["Heightened Perception of Economic Laws"—Review by Dr Karl-Heinz Graupner, economist, staff employee, SED Central Committee, of book "Oekonomische Gesetze des Sozialismus" (Economic Laws of Socialism), authored by economists from the social science academies of the CPSU and SED central committees, headed by Leonid Abalkin and Gerhard Schulz; published by Dietz Verlag, East Berlin, 1981]

[Text] The 10th SED Congress has emphatically reiterated that the continued shaping of the economy of developed socialism in the GDR is the central concern of the party's social policy. Mainly in the economic field decisions are made on the further successes for which our economic strategy for the 1980's forms the decisive foundation. The policy of the main task is being continued consistently, yet it calls for a new quality of work under our changed conditions.

Our party's orientation fully conforms with the economic strategy worked out by the CPSU at its 26th party congress and its having confirmed the course of the main task under the new conditions. As a key problem for solving the enormous tasks at hand, the resolutions of both party congresses and the materials of the party congresses of other Marxist-Leninist parties in the socialist community have underscored the need to obtain an increasingly deeper understanding of the objective economic laws in their reciprocal interrelation and to disclose, for the sake of making conscious use of them, their complex efficacy in the present and future, because long-term, effective, stable and permanent economic growth, aimed at the good of the people, can be realized only by a policy that resolutely and unwaveringly proceeds from the requirements of the economic laws and the concrete effects caused by them.

The book "Oekonomische Gesetze des Sozialismus" (Economic Laws of Socialism), published recently by Dietz Verlag, East Berlin as a cooperative project of a collective of economic scientists of the social science academies of the CPSU and SED central committees, headed by Leonid Abalkin and Gerhard Schulz, which proceeds from the requirements referred to, proves a scientific accomplishment of high rank.

In fifteen chapters, on a high theoretical level, and based on the progressive experiences and insights of the political economy of socialism, with appropriate acknowledgement given to the accomplishments of both parties, a characterization of the system of the economic laws of socialism is offered, the interrelations among the economic laws are analyzed in their general, particular and specific nature, and the connections between the economic laws and their various manifestations are presented (cf. pp 47 ff). A theoretical analysis is introduced of the possibilities for quanitifying the economic laws as a precondition for making more effective use of the laws (cf. pp 145 ff), and interesting ideas are developed on how the economic laws and laws of other social domains relate with each other and affect the social and intellectual-cultural development of society (cf. pp 126 ff).

The authors succeed in theoretically and practically grasping the most important problems in the organized economic planning of developed socialism and in elaborating some of its essential features (cf. pp 166 ff). A prominent account is devoted here to an analysis of the effects of the economic laws of socialism under the conditions of socialist economic integration and the ongoing rapprochement among and adaptation of the economic development levels of the CEMA member countries (cf. pp 298 ff).

What mainly distinguishes the book, however, and what particularly enriches our theory and practice, is the fundamental, detailed and consistent analysis of the changed conditions under which the economic laws of socialism take effect, which informs the book as a whole.

As the political economists have time and time again been assigned the task to disclose further the new requirements of the economic laws, resulting from a concrete historic developmental phase, so as to be able to present constructive proposals for a further planned development of the socialist economy and for improving the management, planning and incentive system, the point of departure and the basis for such work must be a precise analysis of the changing conditions under which the economic laws take effect and their manifestations. This is the standpoint from which the authors' collective lets itself be guided as it explores the conditions for those effects in the course in which they proceed and in their complexity and specificity. Within the complex of those conditions the authors include "the socialist production relations in their concrete degree of maturation, the level of the material-technical base of socialism, the social labor capacity, the standard of living including the state of working and living conditions, the natural conditions and resources, the cooperation with the fraternal socialist countries including the stage reached in socialist economic integration, the international correlation of forces as between socialism and capitalism, and the forms of the class struggle between the two world systems" (p 6).

Such an approach is important in more than one sense in the early 1980's under the greatly changed internal and external reproduction conditions.

First, it provides the possibility for further developing the political economy of socialism as a scientific system and enhancing its scientific-productive and political-ideological and, hence, its educational effectiveness.

Second, such an approach, on the one hand, prevents the formulations of the laws from merely being "refined or improved." On the other hand, this also makes perfectly clear that the changes under which the economic laws take effect do not change the nature of these laws but enrich their content and that they embody the nature of socialist production relations more comprehensively and effectively.

Third, this places our scientific considerations still more definitely on the extremely complicated problems of an expanded reproduction of our product and the renovation of our material-technical base by means of scientific-technical progress that goes with it, which is treated as a decisive connecting link for essentially improving our economic efficiency. This is of outstanding importance to materially providing for our steadily improving people's well-being, growth and stability.

Fourth, it reinforces the need to proceed, in theory and practice, from that the economic reproduction process constitutes an organic unity and its phases, elements and aspects have to be conceived of and brought to realization as components of one totality. For instance, the requisite improvement in labor productivity and efficiency is impossible as long as only one or another growth factor is put into effect per se. The authors proceed from the proposition that expanded reproduction in socialism always embraces the unity of the reproduction process of the product, of labor and of the socialist production relations and is inseparably tied up with the further shaping of the socialist way of life. This concept is what buttresses the overall theoretical structure of the views of the authors' collective.

The authors work out that the economic laws of socialism objectively form a uniform system marked by a specific social nature, internal order, sequence of rank and dialectical interaction. They resolutely oppose any moral evaluation of the laws in the system as "important and unimportant," "bad and good," and they also refute the naive notion that is sometimes still encountered, that the system character should have to wait for the coordination of economic tasks--in the outcome of a conscious utilization of the economic laws. They make clear that, instead, vice versa, it is a matter of ever more completely conforming with the system character as it objectively exists.

With their evidence for that the system of the economic laws of socialism includes the general, the particular and the specific ones, the points are made that the new socioeconomic character of the laws is formed by the socialist production relations and that, together with the further perfecting of the socialist production relations and their international spread, the system of the economic laws of socialism keeps developing. The forms and methods for the utilization of the economic laws are demonstrated by reference to the perfecting of management, planning and economic stimulation in the USSR and the GDR. A precise differentiation is made here between the objective effect of economic laws and their conscious utilization by economic management. At the same time, however, more attention is given than it is sometimes done in other relevant literature to existing interactions, to the object-subject dialectics.

Interest is warranted in the explanation and clarification of the well known thesis that the existence of economic laws in no way way results from the existing material-technical factors of the productive forces but from the socialist production relations (cf. pp 98 ff). Nor is there left any doubt that their effect as well as their requirements can only result from the dialectical interaction between the socialist production relations and the productive forces as the unified mode of socialist production. Attention must of course be paid in the analysis of the concrete conditions under which economic laws take effect to the diverse degrees of maturation in the socialist production relations in the various countries. As early as in the third volume of "Das Kapital" Marx pointed out that even with an economic basis identical in social composition an infinite variety exists of empirical premises, natural conditions, traditions and so forth, in consequence of which the specificity in the effect of universally valid economic laws of socialism and its various manifestations differ accordingly. This means that with every new developmental stage in the socialist production relations will not only the action radius and possibilities for the utilization of the economic laws be expanded, but the content of these laws also will be enriched and the influence they have on all aspects of the economic activity of the international socialist society will be strengthened (cf. pp 311 ff).

Research has reached a stage which underscores the need for further examinations into the system of economic laws and for an analysis of its requirements--as conceived over long term in the central research plan of the Marxist-Leninist social sciences of the GDR for the 1981-1985 period. This task belongs among those basic problems in the political economy that call for constant research, deepening and refinement. At present especially--under the changed reproduction conditions--there are a number of causes that make it especially urgent for political-economic research to attend to that area. The authors of the present book have made a fine contribution to it. That, however, does not excuse political-economic research in this field from the task to disclose further and still more pervasive interconnections and to draw appropriate theoretical and practical conclusions from the further development of the socialization process of production and labor which, among other things, is marked by an increasing intertwining and complexity of our economic and social development (cf. pp 349 ff).

The social conditions, elaborated in this book in their fundamental importance, under which the working people become aware of their role as the proprietors of the means of production, as the producers and landlords of society, as they become directly perceptible to them and promote their personality development, continue to be major emphases in political-economic research. The remarks made about the combines (cf. pp 249 ff) underscore the importance of more intensive research in this field, so as to more deeply account for the objective inevitability in the socialization of production and the necessary consequences of it. In view of the fundamentally changed reproduction conditions at present, the concentrated reproduction capacity of the combines turns out to be the crucial condition for insuring also a dynamic rate of economic growth in the future.

More penetrating theoretical work, furthermore, is needed to determine more precisely still the place of the economic laws of commodity production and distribution within the system of the economic laws. That is so precisely because--as shown in this book--the socialist planned economy objectively includes commodity production for the sake of man.

All in all, an achievement in creative cooperative efforts.

5885
CSO: 2300/281

OFFICIAL DISCUSSES ROLE, FUNCTION OF BULGARIAN NATIONAL BANK

Sofia OTECHESTVO in Bulgarian No 11, 1981 pp 10-12

[Interview with Vasil Kolarov, first deputy chairman of the Bulgarian National Bank, conducted by Petur Gerasimov and Petur Bozhkov]

[Text] Question: Comrade Kolarov, what can you tell us about the role and place of the Bulgarian National Bank in the development of our economy?

Answer: Before making an analysis of some of the characteristic aspects of BNB [Bulgarian National Bank] activities or its tasks in the new five-year period I would like to mention the results of the Seventh Five-Year Plan which have determined our future path to a large extent.

The past five years were quite effective in the development of our economy: we are already familiar with the statistical data which were reviewed at the 12th BCP Congress. Comrade Todor Zhivkov assessed the last five-year plan as being the most fruitful period in the overall development of our socialist country. During each of these years the growth of the national income--the most synthetic measure of the qualitative growth of the economy, in the final account, of the possibility of increasing the well-being of the people--averaged about 6 percent. Such real successes become particularly important against the background of the rather difficult period we crossed both in terms of the foreign economic plan and for a number of objective domestic reasons.

In the past few years the prices of basic raw materials and materials we import rose sharply. Here are some quite descriptive figures: in the 10-year period between 1970 and 1980 petroleum prices on the world market rose tenfold. The prices of other basic raw materials rose on the world trading markets by a factor of about five. We know that our country is not particularly rich in high-grade raw materials and mineral resources and that we are forced to import a high percentage of the raw and other materials and fuels we need.

Bulgaria's participation in socialist economic integration and, particularly, the intensive vital relations and steady rapprochement between the Bulgarian and Soviet economies, which excludes all circumstantial factors, uncertainty or inequality, so typical of international capitalist trade, has an exceptionally favorable impact on the creation of the best possible conditions for the development of the Bulgarian economy during that period.

Some objective problems existed on the purely domestic level as well. We were faced, for example, with a new situation: due to natural causes (a fact which specialists had forecast long ago), starting in 1978, although slowly, the active age population in our country began to decline (in absolute figures). In other words, along with the limited opportunity to increase the labor objects, the second possible "lever" used to increase the national income--increased manpower--has also become virtually exhausted as an extensive development factor. We can no longer include an ever-increasing number of people in the production process. It is precisely the opposite that prevails: the only possibility is to transfer manpower resources from the production area, where labor productivity has risen sharply, to the new plants, enterprises, production facilities and activities. I shall not discuss a number of internal subjective weaknesses for the overcoming of which our party and state fought hard in the past period.

I would like to emphasize, as I enumerate all of these facts, the truly stiff price paid for this roughly 6 percent annual growth of the national income. We know that within the same period of time even many advanced countries throughout the world showed rather modest economic growth indicators. Our conclusion is that, led by the BCP, the Bulgarian people were able to adapt on time, regardless of difficulties, their economy to the new more complex conditions, to ensure the growth of the national income and, therefore, to improve the well-being of the working people. In this respect let us note the great perspicacity and wisdom displayed by Comrade Todor Zhivkov, the first leader of the BCP and of our state, and general secretary of the BCP Central Committee. Always daringly and uncompromisingly he has formulated the main, the strategic problems of our future development. He has done extensive work on such vital problems and is energetically and extensively organizing and ensuring their practical implementation by the party, the state, the economy and society.

Following are a few typical figures which show the qualitative changes which have taken place in our economy. All Bulgarians may be proud of the scale of our exports: in 1980 our country exported goods worth about 8.9 billion foreign exchange leva. Of this amount industrial exports account for about 8.6 billion, or 96.6 percent. Most of our industrial exports consisted of commodities which had nothing to do with agriculture--about 6.4 billion foreign exchange leva or some 72 percent of overall Bulgarian exports. Exported industrial goods of agricultural origin totaled 2.2 billion foreign exchange leva, i.e., less than one-fourth of the entire volume of our exports. Unprocessed agricultural commodities exported last year totaled about 300 million leva, or less than 4 percent of total exports.

Over the past five years the Bulgarian national bank made its modest contribution to the overall economic activities carried out under the leadership of the BCP. In the Seventh Five-Year Plan a reorganization of our banking system was undertaken, with a view to enabling it to influence more actively the positive development of the economy and to encourage even greater effectiveness.

We know that over the past two years we have been gradually applying the new economic approach in our national economy. The BNB has done everything it could to contribute to its successful application. Let us take as an example the elaboration of the basic document on the self-support of each economic organization, the so-called income formation and distribution system. In accordance with the decisions of the party and the state the bank has helped each economic organization to restructure itself on an essentially new basis so that self-support may become far more realistic. Over the past two years all the income, according to the system, began to be formed exclusively on the basis of the actually received funds deposited to the bank account of the economic organization. This put an end to the old practice of considering as goods sold those which had been only produced and billed. The old system lacked the final aspect, the point at which a commodity is converted to money. Actually, it lacked the stage of the real marketing of goods. Today income is formed exclusively on the basis of actual cash income.

Question: What is the nature of the control function which the BNB exercises in this process?

Answer: When the monthly balance sheets and income charts are submitted, the bank checks whether the cash received by the economic organization is in the same amount as that indicated in the accountability report. The general income, deductions for the budget and for the various funds and, in the final account, the forming of the resulting wage fund, now depend exclusively on the actual revenue. In this respect the bank is directly fulfilling the instructions of Comrade Todor Zhivkov on steadily enhancing the role of currency. Today it is in the interest of an economic organization to market its goods as rapidly as possible and to have its products actually bought by the consumer. All of this is most simply manifested through its income.

In recent years the bank has invested a great deal of effort in promoting the so-called result-residual nature of wages in economic organizations. In other words, wages must be the end, the final result, after all other payments have been made. Any unfavorable development in the work of an economic organization entrusted with the handling of productive capital, labor objects and other resources is directly reflected in the wages. Cost overruns of 100 leva in an economic organization mean that its income is reduced by 100 leva and, hence, in the final account, so is the resulting wage. Today, far more than in the past, managers of organizations and all working people are becoming aware of all expenditures, as good managers should, in order to prevent any wage reduction.

Question: How is the new economic mechanism being applied within the BNB system?

Answer: Starting with 1 January 1981, in accordance with party and state decisions, the bank undertook the application of the new economic approach and the self-supporting principle. This is not a self-seeking aim. Its purpose is to make the bank an even more desirable partner of the economic organizations and their equal economic agent who will have a greater influence on them and will help them to increase their economic effectiveness.

What are the more characteristic features of the application of the new economic mechanism within the bank itself, above all, the application of the result and residual principle to bank personnel wages? This is directly related to upgrading the personnel's specific responsibility for economic activities. Secondly, new bigger (and far more autonomous and independent economically) banking organs were set up, which are acting as equal partners of economic organizations. So-called okrug banks were established, each of which manages the BNB branches in a given okrug.

Another essential feature of the bank's economic mechanism is the improved system of interest rates, which was applied starting with this year. Its principles are simple and effective: they directly stimulate increased economic effectiveness. In a word, they could be characterized as follows: the more effective an economic initiative to be implemented with bank credits is, the lower will be the interest rate charged to the economic organization by the bank, and vice versa.

Question: In practical terms, how is the BNB implementing the new line in the field of crediting?

Answer: Whenever an economic organization decides to make a new investment it must be issued in advance a "visa" by the Bulgarian National Bank, an agreement that the new initiative will be useful and effective. The organization's manager discussed and analyzed with the bank all the necessary substantiating documents such as estimates of economic effectiveness, based on the cost of investments (the cost of the reconstruction or of a new project) and, on this basis, the expected higher returns from the new investments. All this must be substantiated in the proper documents. The bank's economic and engineering-technical experts will conduct the necessary investigations before the bank has agreed to such an investment (or has refused it, should it prove to be unprofitable). In recent years the bank has agreed to allow economic organizations to include in their plans approximately 60 percent of investment requests. Therefore, some 40 percent of investment requests filed by economic organizations were rejected by the bank and, therefore, are not being implemented.

But let us return to the new interest rate. Here is a specific example: if an enterprise wishes to make an investment which will be recovered in more than eight years it will be charged a 9 percent interest, which is close to our maximum, which is 10 percent. Conversely, if the effectiveness of a given investment is such that the investment may be recovered in one to two years, the interest rate would not exceed 2.5 percent. In other words, the interest rate is such as to encourage the economic organizations to make more effective investments.

Question: What are the immediate tasks of the BNB in the new Eighth Five-Year Plan?

Answer: This year and subsequently, throughout the new five-year plan, the process of decisive reorganization of the bank's work will be continued. The theses of the 12th congress formulate the BNB assignments very clearly: credits and interests must play an even more active role in achieving planned proportions and assuring the accelerated use of science and technical progress and high multiplication results. The party's instruction to the bank is to become not only an even more active partner through credits but to begin to act as an associate of economic organizations and share with them material responsibility for final results.

The most complex and an exceptionally important problem is the one of the application of the new criteria in the work of economic organizations and the bank. The BNB is using all the tools at its disposal, such as contracting for capital investments and working assets loans, foreign exchange loans and other forms of work, in applying stricter criteria in assessing effectiveness, as stipulated by the congress. Our objective is not to meet this criterion on the basis of the dynamic principle, i.e., that today's accomplishments be better than yesterday's and tomorrow's better than today's. Now the assessment must be based on a comparison with the best achievements, whether domestic or foreign. Currently the country is drafting the Eighth Five-Year Plan. The bank units are active participants in this process and it is this strict rating that will become the main factor for the acceptance (or rejection) of an investment project. Together with the economic organizations the bank assesses the level of effectiveness of the specific project compared with leading achievements, both domestic and foreign. To this end the bank uses far more extensive domestic and international information and its own analyses and developments which indicate the actual level of effectiveness of one or another measure.

Question: You mentioned a new form of BNB participation in the economy, not only through loans but as an actual partner of economic organizations.

Answer: Yes, in this area, which is new to us, we must draft specific documents which will stipulate the rules governing the bank's participation in associations. A possible idea in this respect, for example, could be the following: within the limit of a specific amount of bank money, each okrug BNB bank could enter into a partnership with a specific organization in the creation and management of a new joint enterprise. The bank would participate with a specific percentage of capital investments as a coinvestor. Then, together with the respective economic organization, the bank would manage this joint enterprise. Naturally, the bank would invest its funds in particularly effective enterprises which will apply the best achievements of scientific and technical progress.

Assuming that this joint enterprise is profitable, in proportion to the share of participation in its statutory capital, the economic organization and the bank will share the residual income. Conversely, should the enterprise fail to earn an income, the bank would receive nothing, like the economic organization. Furthermore, should the joint enterprise be in receivership, should it go "bankrupt," the bank and the economic organization would lose the corresponding share of their investment.

Question: Assuming that an already operational enterprise were to prove its ineffectiveness in the future, what would be the bank's function?

Answer: The rule of establishing permanent control over the financial and economic condition of the economic organizations is included in the already operational new mechanism. BNB data for 1980, in which all economic sectors apply the new economic mechanism, indicate that most of the economic organizations and enterprises are successfully working on a self-supporting basis and are making their contribution to the achievement of overall positive results. Very few enterprises experienced major financial difficulties. In order to eliminate temporary difficulties, the BNB granted emergency loans and coordinated the efforts of superior organizations so that, in the final account, the problems could be resolved. As to permanent insolvency, the new economic mechanism stipulates that the economic ministries, as the superior state organ, together with the Ministry of Finance, the Bulgarian National Bank and the Committee on Labor must undertake stabilizing measures in the case of organizations in a state of receivership. Should even such measures prove to be insufficient, the respective managements will be discharged for incompetency and deprived of the right to assume subsequently responsible economic positions elsewhere. Naturally, under our socialist conditions this can never bring about social problems which would affect the working people in the enterprise. In such cases, which would hardly be numerous, the respective productive capital may be given to another organization which will create conditions for their effective utilization. The workers' collective will either remain employed within the same enterprise or will go to related enterprises, without creating social-labor problems, with a view to making full use of the manpower and the productive capital.

Question: How does the bank guarantee the stability of the Bulgarian leva?

Answer: This is a very interesting question. In practice, the bank does not guarantee the purchasing power and stability of the Bulgarian currency in an alchemy laboratory deep within its bowels. The strength and stability of the currency are guaranteed by the labor of the people and our country's economy. Whenever 200 leva are earned for really-accomplished good-quality work, assessed at 200 leva, or, allow me to explain, for work whose quantity and quality is consistent with progressive socially-necessary norms, the stability of the Bulgarian leva is guaranteed. However, whenever an enterprise manager orders the payment of 200 leva whereas the work done was worth 100, it is not the bank but in fact he who authorizes the "erosion" of a particle of the Bulgarian currency.

All in all, no such problem faces the country at large, for we are successfully implementing our plans which determine the basic ratios between wages and labor productivity, between commodities and currency, and so on. Today the money earned by our working people allows them to purchase ever-increasing numbers of more varied and beautiful goods. We can say that the value of the Bulgarian leva is rising steadily. The better plans are fulfilled and overfulfilled, the more stable the Bulgarian currency becomes. Through its overall activities, by supervising the result-residual nature of wages, i.e., by granting loans for effective activities, including the production of more consumer goods and services, and by seeing to it that the economic organizations observe their foreign exchange balances and, hence, ensure positive results in the balance of payments of the state, the BNB is contributing to the enhancement of the strength and stability of the Bulgarian leva.

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COUNTERPLANNING GOALS, PROCEDURES EXPLAINED

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/Article by Oldrich Bogner, chairman of the central committee of the Mining and Power Industry Employees Trade Union, and Eng Vlastimil Ehrenberger, Candidate for Doctor of Science, minister of fuels and power of the CSSR/

> /Text/ Active worker participation in national economic management, and especially in the formulation, implementation, and control of plan fulfillment, is an important factor in the efficient development of the national economy and in the growing cultural and material well-being of the population. Its basic directions have been established in the document Principles of the Federal Ministry of Fuels and Power and the central committee of the Mining and Power Industry Employees Trade Union for the Organization of Worker Participation in the Formulation, Implementation, and Control of Plan Fulfillment from 1981 to 1985, which is contained in General Guidelines No 2/1981. These principles emphasize the intensification of worker participation, particularly in the preparation and formulation of plan proposals by the technique of counterplanning, which represents a qualitatively higher degree of creative worker initiative.

In addition, the Federal Ministry of Fuels and Power is issuing the following guidelines for the implementation of counterplanning, and for discussion with the central committee of the Fuel and Power Industry Employees Trade Union:

I. Objective and Basic Preconditions of Counterplanning

1. Counterplanning is a technique for formulating an annual plan proposal. Its objective is to mobilize and to utilize the abilities, knowledge, experience, and suggestions of employees toward the discovery of unused internal capacity, thereby providing at all levels of management for the most efficient achievement and surpassing of the goals outlined in the five-year plan, and in some cases the guidelines (focus of projects) for a given year (hereafter "five-year plan guidelines").

2. The mobilization of internal resources through counterplanning during the formulation of annual plan proposals is intended to assure that new possibilities, potentials, and resources for the national economy are known at the time of the

formulation of the implementation plan, and may be used in a planned manner for the assurance of the dynamic and proportional development of the entire economy. This demands a fundamental change in current forms and techniques for formulating plan proposals at both the organizational units of concerns and at the level of the concerns themselves.

3. Counterplanning also stems from the necessity for unifying, in the formulation of annual plans, individual, collective and societywide interests in a common search for the most efficient possible resolution of the matters at hand.

4. The five-year plan guidelines establish, for individual years, the main tasks for concerns and their organizational units, as well as the resources (raw materials, capital stock, employees, financial resources, etc.) for their implementation in the form of binding limits. Therefore, counterplanning is basically focused on the acceleration of the five-year plan guidelines in annual plan proposals.

A precondition for the efficient development of counterplanning is that the more progressive tasks incorporated into a plan proposal not constitute a reinforcement of the binding limits, or of allocations to capital stock, etc., in the planning year, nor an automatic increase in tasks for the following year, but that the advantage stemming from the acceleration process be retained.

5. Counterplanning is connected to economic incentives in accordance with the merit principle. The adoption of more ambitious tasks in annual plan proposals than those required to maintain the objectives of the five-year plan guidelines, or the overfulfillment of an annual plan, will be materially rewarded; failure to maintain tasks outlined in five-year plan guidelines will be punished. Fulfillment of an accelerated annual plan is judged, in principle, as normal plan fulfillment, with the caveat that a moderation or elimination of penalties is established for relevant economic-incentive instruments, so long as failure to fulfill an annual plan does not fall below the level established for tasks in the five-year plan guidelines.

II. Main Characteristics of Counterplanning

1. Counterplanning is applied within the framework of the resources and limits established by the five-year plan guidelines, through their more efficient valuation and especially through the improved utilization of raw material inputs. The essence of counterplanning lies, therefore, above all in the acceleration of the qualitative tasks in the five-year plan guidelines and, in certain instances, in the raising of quantitative objectives as well.

2. Acceleration in terms of the tasks of the five-year plan guidelines must be incorporated into the proposed plans of both the organizational units of concerns as well as each concern separately no later than at the time of presentation of the annual plan proposal. Insofar as a concern, during the period between the submission of the plan proposal and the approval of the state plan, accepts a further acceleration of objectives, as shown by a new plan proposal with all its related components, the increased economic incentives applicable to counterplanning will remain in force. All additional task acceleration is treated as plan overfulfillment, and receives lower economic incentives according to the regulations valid for plan overfulfillment; concerns are to conduct themselves similarly in relation to their organizational units.

3. Tasks which are accelerated in proposed annual plans in relation to the five-year plan guidelines receive material incentives, and those which are underfulfilled receive material penalties:

a) at the concern level, according to the connection between the decisive indicators and the economic-incentive instruments; an increase in the incentive component of wages payable depends on an improvement in the level of the critical indicator, an increase in average earnings or reductions in numbers of employees, an increase in managerial bonuses on the established indicator; a worsening in the level of the critical indicator results in the progressive reduction in the incentive components of wages payable;

b) within concerns, according to the connections and regulations established by the concern in conjunction with the focus of counterplanning at the start of work on the plan proposal.

III. The Focus of Counterplanning

1. During the Seventh Five-Year Plan, counterplanning will be directed, above all, at the qualitative aspects of development, and in the coal industry specifically at an increase in the planned extraction of coal and soil removal, operations whose level is primarily determined in the preproduction and production process. For this reason, it is based on the development of worker initiative in internal enterprise divisions; the task of higher management levels is, above all, to create the necessary conditions for this.

2. The focus of counterplanning is established by the ministry for concerns and, similarly, by concerns for their organizational units, in agreement with the appropriate organ of the ROH /Revolutionary Trade Union Movement/, and on the basis of an analysis of the difficulty of the tasks of the five-year plan guidelines in terms of the concrete conditions facing them, and with a view to societywide requirements. All of this must take place from the beginning of work on the annual plan proposal.

3. Counterplanning within concerns is primarily oriented toward the following components of intensive growth:

--a reduction in the energy- and material-intensiveness of production, achieved through savings in the consumption of raw materials, fuels, energy, and other inputs in comparison with the standards for individual products and groups of products;

--a reduction in the import intensiveness of production, principally by replacing materials which are in short supply or imported with inputs which are domestic and of which there are ample stocks;

--receiving higher prices for exports, particularly by means of an efficient production and supply network, the provision of spare parts, service, etc.;

--an increase in labor productivity through work rationalization, an increase in the quality of labor-consumption standards (performance standards, service and inventory standards) and the expansion of their bases;

--an improvement in the use-qualities of products, an increase in the percentage of quality products and products of a state-of-the-art technological level, a minimization of losses due to low-quality products, especially through a reduction in the number of internal rejects and limitations on the production of products in the lowest quality classifications, etc.;

--a speeding up of the implementation of the results of technical development, especially by shortening the time required to start up the production of new products and technologies,

--improved utilization of fixed assets and inventories, and a reduction in the amount of production inventories through an increase in their turnover;

--reducing the time required to complete construction projects and to make facilities operational, and improving the quality of labor and deliveries;

--a reduction in other production and operational costs, in particular the costs of handling at the enterprise, warehousing, etc.

4. In instances where counterplanning is also directed at the overfulfillment of the quantitative objectives of the five-year plan guidelines, for instance, in coal extraction, overburden removal, the volume of engineering and construction output, the concern and its organizational units must resolve the material requirements primarily by means of reduced consumption; they must resolve any increases in material-input requirements directly with the supplier within the framework of a clarification of supplier-consumer relations during the planning process.

IV. Application of Counterplanning Principles During Elaboration of Five-Year Plan Guidelines and Formulation of Plan Proposals

1. The basic starting point of counterplanning for the organization is the five-year plan guidelines as broken down by the ministry for its concerns, and at the concern level for its individual organizational units.

2. Elaboration of the five-year plan guidelines and the establishment of tasks, resource limitations and economic-incentive instruments must be differentiated according to objectives, and to the greatest extent possible supported by analyses of individual factors, norms, and even labor value added and embodied labor indicators; the ties within individual plan components and among them must be provided for, and the established tasks must be coordinated with the relevant organizations in their fundamental relationships.

3. The concerns rework the tasks, standards, and interrelationships which have been established for them in a differentiated manner for their constituent organizational units in the form of the indicators and relations which best express the assumed contribution of every organizational unit to the achievement of the objectives established for the concerns, and the degree to which a given organizational unit will share, in connection with its actual contributions, in the incentive resources which are generated.

4. In the formulation of five-year plan guidelines, the concerns create the absolutely essential resources to cover potentially higher requirements in connection with the adoption of more demanding tasks by subordinate organizational units; at the same time they have especially in mind requirements for resources in those instances where significant differences exist in the magnitude of economic-incentive instrument rates among subordinate units.

5. The ministry and concerns, in cooperation with the appropriate agency of the trade union, established a binding approach and a time schedule for the creation of an annual plan proposal which provides for a thorough discussion of tasks and conditions, and the incorporation of a broad spectrum of workers into counterplanning.

6. Within the framework of work on annual plan proposals, the concerns and their organizational units, in cooperation with the appropriate organs of the ROH, will see to the thorough acquaintance of all workers with the tasks stemming from the five-year plan guidelines for the year in question, as well as with the conditions for incentives.

7. Concerns and their organizational units, in cooperation with organs of the ROH, are to organize the formulation of an annual plan proposal on the basis of broad worker participation, so that the greatest possible number of employees may share in the preparation of a plan proposal and in efforts to accelerate it. At the same time it is to assure that the resolution of specific problems and tasks assigned to individual worksites within the context of counterplanning will be solved primarily by the foremen, masters, rationalization brigades, socialist work brigades, innovators and those who improve operations.

Their participation must be organized in such a way that the proposal for an annual plan stems from the suggestions, experiences, and comments of the senior employees, the innovators, those who improve operations, comprehensive rationalization brigades of socialist labor, and so that the plan is directed at increasing labor productivity, production efficiency, and the quality of all work. The objective is to qualitatively change the current technique for formulating annual plan proposals.

8. The organizational units of concerns, and the concerns themselves, are to integrate the contributions of counterplanning into their annual plan proposals in the form of a full range of accelerated qualitative indicators and, insofar as it is a question of increased production, only if they have resolved the supplier-consumer relations.

9. The concern and the ministry will evaluate the efficiency of the proposal, the accuracy of the calculation of economic-incentive resources, as well as the assurance through suppliers of any increased raw-material and component requirements. On the basis of this, they will make decisions concerning the integration of the contribution of counterplanning into their own plan proposal and then will inform the formulator of the plan proposal.

V. Economic Incentives

The system and conditions of economic incentives during the application of counterplanning, the relationships among the critical indicators and economic-incentive instruments in cases of the acceleration or underfulfillment of five-year plan hereafter referred to as "Guidelines and Regulations." The magnitude of incentives provided by the plan is calculated from planned exports in all-charges-paid prices for the appropriate year of the five-year plan, with the aid of the planned economic-incentive norm (Point II/A/2a) of Guidelines and Regulations).

2. For Overfulfillment and Failure to Fulfill Annual Plan Targets

a) The target area for wages payable has been resolved by Ministry of Fuel and Power Guidelines No 5/1981.

Should a concern adopt, in an annual plan, an accelerated target for an indicator critical for the generation of the incentive components of wages payable, and then fail to meet this target in the course of plan implementation, conversion coefficients are applied to reduce the critical indicator in ranges whose boundaries increase by a percentage which corresponds to the increase in the critical indicator adopted in the annual plan (by 1 percent for each percentage increase in the level of the critical indicator);

b) Guidelines and Regulations resolves the area of economic incentives for exports by the application of Financial and Economic Instruments in Foreign Trade for the 1981 to 1985 Period (FMF material, File No XIII/1-8260/80, October 1980);

c) For incorporating in an annual plan higher targets in the conditioning indicators for supplementary allocations to the cultural and social needs fund than those included in the five-year plan guidelines, and then failing to meet them during plan implementation, the allocation to the cultural and social needs fund will be restricted (Section 4, Paragraph 6, Decree No 165/1980, Laws of the CSSR, concerning cultural and social needs funds), even in the event that the magnitude of the conditioning indicators fall below the level in the five-year plan guidelines;

d) When profit targets are exceeded, only 40 percent of the excess profits are aggregated into the basic allocation for the generation of the development fund; the normal rate does not change in cases of fulfillment of overfulfillment of conditioning indicators; if they are not fulfilled, then allocations from profits to the development fund are reduced so that they disappear entirely in a given half-year if an indicator is fulfilled only at an 80 percent level (Section 14, Paragraph 2, Decree No 162/1980, Laws of the CSSR, concerning the financing of capital asset replacement); this applies only to those concern organizational units which have established a development fund;

e) If profit targets are not met during the implementation of an annual plan, the allocation to the development fund is reduced according to the established criteria, i.e., for a shortfall of 1 percent, the allocation is reduced by a specified percentage of the norm, on the condition that conditioning indicators have been met or exceeded; if they have not been met, then reductions are applied in accordance with Part V, Point 2 d) of these procedures. If an organizational unit of a concern adopts, in an annual plan, a higher conditioning indicator target than provided for in the five-year plan guidelines, and then fails to meet it, the conditioning indicators are considered to have been met for purposes of calculating allocations to the development fund, provided they have reached the level provided for in the five-year plan guidelines; a progressive scale for reduction of allocations is applied only in cases of underfulfillment at a level below that of the five-year plan guidelines; this relates only to those concern organizational units which have established a development fund.

guideline tasks in proposed annual plans, and in cases of overfulfilling and failing to fulfill an annual plan, have been established for concerns by FMPSV /Federal Ministry of Labor and Social Affairs Decree/ No 143/1980, Laws of the CSSR, the guidelines for their individual application, and the procedure outlined below.

Insofar as one is concerned about material incentives within the organizational units of a concern, connections based on performance are used which are expressed by indicators which precisely describe, within the framework of internal concern regulations governing counterplanning, the contribution of individual organizational units to the acceleration of the tasks of the entire concern.

The following connections will be applicable at the concern level during the Seventh Five-Year Plan:

1. Accelerating Five-Year Plan Guideline Objectives in Annual Plan Proposals.

a) For the adoption of higher production targets by assigned natural resource units, provided that coal industry concerns do not have worsened cost structures, and that gas, power generation, and uranium industry concerns improve their ratio of costs to performance, the volume of the incentive component of wages payable will increase in direct proportion to the percentage increase in this indicator (or lowered in relation to the overall cost indicator), i.e., the conversion coefficient has the value 1 (Section 7, Paragraph 3a) of Decree 143/1980, Laws of the CSSR);

b) For undertaking a higher target for increased labor productivity through labor-force reduction, the binding limits on wages payable apply without restriction, i.e., there is an absolute limit on the basic and incentive components of wages payable. This makes possible a more rapid increase in average wages in comparison with the five-year plan guidelines:

c) In those concern organizational units in which a development fund has been established, the adoption of higher profit targets for the generation of a development fund results in the application to the excess profit units of an incentive standard, computed in such a way that the basic standard is increased by a percentage determined by the concern for this purpose, but which may not exceed 50 percent (Section 14, Paragraph 6, Decree No 162/1980, Laws of the CSSR, concerning the financing of capital stock replacement).

This procedure is conditioned by the requirement that the organizational unit incorporate into its annual plan proposal conditioning indicators of at least the magnitude established by the five-year plan guidelines. If, however, it adopts conditioning indicators of a lesser magnitude, the allocation is reduced in the appropriate half of the allocation period (i.e., a 5 percent reduction in allocation for each percentage reduction in a conditioning indicator), so that by adopting a plan proposal which is 80 percent of the targets in the five-year plan guidelines, the concern loses its right to an allocation from profits in the relevant half-year;

d) In calculating the resources available for material incentives for exports, concerns are to proceed according to the Guidelines and Regulations for the Application of Financial and Economic Instruments in Foreign Trade for the 1981 to 1985 Period (Federal FMF /Ministry of Finance/ material, File No XIII/108260/80, October 1980),

3. For Nonfulfillment of Five-Year Plan Guidelines

a) When lower production targets are undertaken in an annual plan by assigned natural-resource units in coal industry concerns, and in cases of a worsening in the ratio of costs to performance in concerns in the gas, power generation, and uranium industries, the absolute limit of the incentive components of wages payable are reduced to an extent expressed by a conversion coefficient (Section 7, Paragraph 3c of Decree No 143/1975, Laws of the CSSR, and Article 4, Paragraphs 4 and 5 of FMPSV Guidelines, File No 31-21/80-7700 concerning the procedure for allocating wages payable) for reducing the critical indicator along the following ranges:

1) from 0 to 3 percent by the numerical value 1,
2) from 3 to 6 percent by the numerical value 2,
3) over 6 percent by the numerical value 10;

b) In those concern organizational units in which a development fund has been established, the adoption of a lower profit target in an annual plan than provided for in the five-year plan guidelines results in a reduction in the normal allocation from profits to the development fund of 5 percent for each percent reduction in the target, so that the adoption of a plan target 80 percent of the guidelines will result in the loss of the right to an allocation from profits to the development fund (Section 14, Paragraph 6, Decree No 162/1980, Laws of the CSSR, concerning the financing of capital asset replacement); as far as conditioning indicators are concerned, a reduction in allocations is applied in accordance with the second paragraph of Part V, Point 1c of these procedures.

4. Material Incentives for Managerial Employees

In the area of material incentives for managerial employees (general directors and professional directors of concerns, directors of organizational units and their assistants), the progressive character of the targets undertaken in an annual plan, in comparison with the five-year plan guidelines, influences the magnitude of annual bonuses (FMPSV Edict, File No 31-1673/80-7315, concerning material incentives for managerial employees in economic organizations) in the following ways:

a) For undertaking tasks which stem from the five-year plan guidelines for a given year, a yearly bonus scale is established up to 30 percent of basic pay (up to 40 percent in concerns and extraction organizational units in the coal and uranium industries, including mine construction--hereafter "extraction organizations");

b) For undertaking higher targets, the annual bonus scale is set at 35 percent and, given the assurance of these targets throughout the five-year plan, up to 40 percent of basic pay (45 percent and 50 percent in extraction organizations);

c) For undertaking lower objectives, annual bonuses of up to 25 percent of basic pay are established (35 percent in extraction organizations), and up to 30 percent if these targets have been met throughout the five-year plan (to 40 percent for extraction organizations).

If a concern, or an organizational unit within a concern, undertakes a more ambitious objective in an established indicator and does not meet it, then the annual bonus of the managerial employees for whom this indicator was established as critical will be reduced by 20 percent. In this case, it is possible to raise the annual bonus for these employees by 10 percent of their base pay (Section 5, Paragraph 4 of FMPSV Edict, File No 31-1673/80-7315), as long as the concern or the organizational unit within a concern, has fulfilled the task which stemmed from the five-year plan guidelines for that year.

VI. Procurement of Supplementary Material Requirements

The following procedures will apply to the procurement of necessarily increased quantities of materials within the framework of the negotiation of supplier-consumer relations:

1. For products which necessarily do not offset each other at individual levels of management (so-called nonoffsetting products), or those which are necessarily not negotiated (Section 4, Paragraph 5, Decree No 48/1980, Laws of the CSSR--hereafter referred to as "Decree"), the concern, or an organizational unit of a concern, will negotiate separately a justifiable supplementary supply of raw materials, other inputs, products, fuel and energy with affiliated supplier organizations during the plan formulation process. If they reach agreement, the concern may incorporate an acceleration of the targets in the five-year plan guidelines into the annual plan proposal, while the delivering organization may incorporate the agreement into the appropriate material balance, composed according to Section 19, Paragraph 1 of the Decree.

2. For products which are offsetting at the level of the VHJ /economic production unit/, concerns, central agencies, and at the level of the state plan, the proposing concern or organizational unit of a concern must implement separately with its suppliers a documented supplementary request for the purpose of acceleration, and then negotiate its requirements within the framework of supplier-consumer negotiations in the process of plan formulation. It is to proceed in this according to Section 12, paragraphs 1, 2, and 4 of the Decree on the condition that in the draft of the protocol and in the protocol itself there is specific mention of the negotiated supplementary request. At the same time:

a) For products which are offsetting at the level of central agencies, the supplying VHJ and the concerns of the Federal Ministry of Fuels and Power (hereafter FMPE) will also present to their supervisory central agencies, along with their proposed annual plan, the aggregated protocols concerning their negotiations. On the basis of these protocols, the central agencies will draft intersectorial protocols and the FMPE will document its submitted requests for acceleration with a justification for consumption. Section 12, Paragraph 7 of the Decree contains more detailed resolutions;

b) The above procedure also applies to products which are offsetting at the level of the state plan, on the condition that the central agencies submit the intersectorial protocols to the State Planning Commission and, for operations managed by agencies of the republics, to the appropriate planning commission of that republic (along with the appropriate material balances). Section 12, Paragraph 8 of the Decree contains further information.

3. Insofar as it is a matter of increased production incorporated into the draft of an annual plan within the framework of counterplanning, and which is covered in terms of raw materials and marketing, the producing organizational unit of a concern, or its supervisory concern, and in some instances the ministry, will report the increase in production to the appropriate accounting manager, who will aggregate it with the resource components of the relevant materials balances.

4. As long as an agreement at the level of the organizational units of a concern is not reached during the supplier-consumer negotiations regarding increased product requirements, then the supervisory concern may negotiate the increased requirements within the framework of supplier-consumer negotiations. Should there not be an agreement reached at this level either, then it is not possible to incorporate the increased targets into the annual plan proposal.

5. Concerns and their organizational units may apply the above procedure for procuring offsetting products (points 2 and 4) only for those products for which the FMPE is a holder of an inventory under the Unified Procedural Guidelines for the Formulation of Plan Proposals. If concerns and their organizational units propose an acceleration of products for which the FMPE does not hold an inventory, then additional requirements are submitted through the holders of such inventories for other consumers (Section 11, paragraphs 4 and 5 of the Decree).

The procedure for implementing counterplanning represents the concretization of the resolutions contained in Principles for Organizing Worker Participation in the Formulation, Implementation, and Control of Plan Fulfillment from 1981 to 1985, as issued jointly by the FMPE and the central committee of the Mining and Power Industry Employees Trade Union in Directive No 2/1981. This is not intended to replace resolutions concerning the connections among critical objectives and economic-incentive instruments as described in the appropriate regulations, but only to unify their interpretation and to serve as a foundation for the elaboration of internal enterprise regulations governing counterplanning.

The general directors of concerns will give authority to the directors of the concern organizational units to implement, according to their specific circumstances, the regulations of counterplanning down to the level of internal enterprise divisions.

9276
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CZECHOSLOVAKIA

RIVER-OCEAN CONTAINERIZATION EMPHASIZED

Interview with Cihlar

Prague SVOBODNE SLOVO in Czech 17 Jul 81 p 3

/Interview with M. Cihlar, head of the Department of Water Transportation and Navigation at the CSSR Ministry of Transportation, by Karel Zitek; date and place not given/

> /Text/ In keeping with the principles of the national transportation policy, development of transportation in the Seventh Five-Year Plan will be oriented toward systematically directing division of labor to types of transportation that are less demanding on energy. In addition to railroads, water transportation is also such a type. Key directions of the economic and social development of the CSSR for the years 1981-1985 call on personnel in water transport to increase its volume by roughly 35 to 40 percent.
>
> To find out what tasks they will be faced with, we talked with the head of the Department for Water Transport and Navigation at the CSSR Ministry of Transportation M. Cihlar.

/Question/ What is the position of the water transportation sector in the transportation system of the CSSR? How did it meet the tasks of the Sixth Five-Year Plan?

/Answer/ While railroads currently handle approximately 18.9 percent of the entire volume of transport in the transportation system in tons and 75 percent in T/km /ton-kilometers/, highway transportation (public and plant) 80.4 percent and 21.2 percent, than the share of water transport is 0.7 percent in tons and 3.8 percent in T/km. Growth of transport, which in the Sixth Five-Year Plan reached almost 80 percent, was primarily due to transportation of coal to the Chvaletic power plant for generation of electricity and transportation of construction materials into the Prague region. Even though water transport, as the most energy-efficient, met with essentially good results, it could not--mainly due to lack of facilities--meet all the demands of foreign trade and some of its goods had to be handled by other carriers. According to the directive for the Sixth Five-Year Plan, water transportation in 1980 was to account for 11.5 million tons. Due to exaggerated estimates of the availability of ships, of the national industrial base and development of capacities, the quoted volumes had to be adjusted down to 10.2 million tons. While the share of water transport in overall transportation may still be low, it is constantly increasing. In 1975, its share in overall transportation was 0.4 percent in tons and 3 percent in T/km; last year it was already up to the mentioned 0.7 and 3.8 percent. By the end of the Seventh Five-Year Plan this share is to increase to 0.9 percent in tons and 4.9 percent in T/km.

/Question/ What harbor and transloading facilities have been put into operation during the Sixth Five-Year Plan?

/Answer/ The transloading facility in the Prague-Smichov harbor was expanded for handling commercial coal and gravel sand, a refueling station was completed on the Elbe River in Hnevice, another part of the harbor in Usti nad Labem was renovated, the most modern transloading facility for power plant coal on the Elbe River was constructed in the Lovosice harbor with a capacity of 10 million tons and construction operations continued in the Bratislava-Palenisko port, an important international shipping center on the Danube River.

/Question/ What does water transportation face in the Seventh Five-Year Plan?

/Answer/ Our goal-oriented plans for the Seventh Five-Year Plan envision the total volume of transportation to amount to 14.3 million tons. Of that number, approximately two-thirds are to accrue to the Czechoslovak Elbe-Oder River Navigation and one-third to the Danube River lines. The growth of transportation volume in tons during the Seventh Five-Year Plan is anticipated to increase by a total of 37 percent in comparison to 1980 when taking into consideration the shipping and transloading capacities which the shipping lines will have at their disposal in the given period. To implement the above-mentioned conceptual intents, the framework for technical development proposed, among others, also a set of selected research and development tasks, the solution of which in regards to an improved technology of the transportation process could result in savings of Kcs 25 million for the shipping lines in investments and annual savings on the order of Kcs 3 million in operating costs. Improvements in towboat technology, and specifically continued utilization of larger tows of barges, will enhance the energy efficiency of navigation.

/Question/ What is planned for expansion of our waterways?

/Answer/ Our navigable water streams with an overall length of 474 kilometers mostly run in parallel with key lines of the Czechoslovak State Railroads and any expansion of waterways further inland would effectively reinforce our transportation system. One of the most immediate tasks will be, e.g., extending the navigability of the Elbe River from Chvaletice to Pardubice regardless of the construction of a new power or heating plant in Opatovice. In the Melnik-Prague sector it is planned to gradually modernize the Moldau waterway for year-round navigation. On the Moldau it will also be necessary to complete the lock at Modrany now under construction, so as to make this sector accessible for year-round freight navigation into the new port being constructed in Radotin. On the Danube River, construction will continue on the system of Gabcikovo-Nagymaros waterworks which, by eliminating the so-called fording sector, will improve navigational conditions on this international waterway.

Use of Lighters

Prague SVOBODNE SLOVO in Czech 17 Jul 81 p 3

/Article by Karol Zitek: "Floating Containers Cross the Indian Ocean"/

/Text/ Do you know what a lighter is? A lighter is a floating container, actually a river freight boat. It can carry as much as a freight train consisting of 50 cars and, without unloading, can reach the other end of the world by crossing the seas. If we load it with products in, let's say, Bratislava, river tugboats will pull it to the "mother" freighter--a lighter carrier--in the Danube River delta. The freighter, using a special elevator--the synchron-lift--loads it together with other lighters on its deck and carries them to their destination. There it again lowers them into water for unloading or for further navigation along the rivers of the given country.

This type of transportation offers many advantages. It is particularly suited for fast and safe transportation of large, integrated yet many multifaceted and demanding cargo.

Use of this system to establish linkage between river and ocean transport--that is the mission of the Interlighter shipping enterprise located in Budapest which originated on the basis of an intergovernmental agreement concluded 3 years ago by Bulgaria, Hungary, the USSR and the CSSR. In a very short time it managed to organize a modern lighter transport on the Danube/Indian Ocean and Danube/Mekong lines. Interlighter services are utilized by both member and nonmember countries together with companies and organizations of yet other countries. In the years 1978-1980 its transport volume doubled.

Interlighter currently has two lighter carriers. The first is called Julius Fucik, the other bears the name of the Hungarian revolutionary figure Tibor Szamuelly. Both are 280 meters long, 35 meters wide and each of them can lift and carry in its hold and on deck 26 fully loaded freight boats--lighters. To date CEMA countries own only two "mother" ships. In the course of the session of the 26th CPSU Congress came publication of the news that the production association in Kherson launched the construction of the first Soviet lighter carrier "Alexei Kosygin" with a carrying capacity of 40,000 brutto registered tons. By means of a 500-ton crane it can lift 82 lighters aboard.

8204
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CRITICAL SHORTAGE OF DESIGNERS DISCUSSED

Prague RUDE PRAVO in Czech 24 Jul 81 p 1

/Editorial: "Increase the Prestige of Designers"/

/Text/ New machining facilities, ships, automobiles, new types of computers, nuclear reactors, microprocessors...Not one of these products, along with thousands of others, could come about without designers, without the daily creative activity of great collectives of people whose work never ends. The designer, whose profession has retained a touch of romanticism even in our times, is a creator, an artist, the hero of science fiction novels played out in future centuries. But we need not look so many years into the future; even now the designer is the person who to a great extent determines the quality of future products, labor intensiveness, material and overhead costs, the technical and economic sophistication of production and, finally, the efficiency of the entire production process. Actually, there is quite a lot connected with the word designer.

It would seem, therefore, to follow that the very basis of the work of a designer would be so attractive that in a period of the advance of science and technology young people would positively flock to design work. Certainly this is where they can pass not only a pleasant moment or two, filled with the satisfaction of creative work, with the happiness stemming from success in creating something new, more improved, prettier and something that will better serve people. In spite of this, however, the situation in many of our design facilities is such that young people either do not come at all, or only for a short period prior to military service, or for 1 or 2 years and then, shorn of their ideal expectations, they move elsewhere. Even this job has two sides, like every other profession. When the young person suddenly begins to realize that he will not be exactly creating space ships at the drawing board, or other attractive products, that it will still be quite some time before he will be able to design by himself a new electric motor, for instance, and finally that the incomes of his comrades in production and elsewhere are increasing faster than his own, then he gives another occupation priority, even though he likes what he is doing. Moreover, it is often true that excellent, experienced designers have no qualms about leaving their profession, because they have the chance to achieve greater material well-being and respect in another position. Society, however, is the loser when they leave.

In RUDE PRAVO we have provided space to more than one admonitory voice, whether from Plzen Skoda, the Gottwaldov Precision Engineering Factories, the Zdar Machine Works and Foundry, or the Jablonec nad Nisou Electro-Praga and other enterprises. All have had a single common denominator: the Sword of Damocles hangs over our design facilities; keep in mind that the average age in these facilities is about 50, young people are not joining up, with the result that there is no one to whom to communicate the rich experiences which no school can teach. The experienced designers, on whose shoulders rests the further development of our engineering industry, as well as other professions and sectors in which it is impossible to get by without the work of creative hands and brains, have rightly posed the pressing question: Is it possible that only empty positions will remain after us? Keep in mind that the training of our successors is not a matter of 1 or 2 years; the training of a competent designer takes, for practical purposes, 5 years. What is going to happen when we leave?

These are truly justified fears. If we take a look at the report on the Main Trends of Economic and Social Development in the CSSR from 1981 to 1985, delivered at the 16th CPCZ Congress by Comrade Lubomir Strougal, we learn that during the past 10 years the percentage of designers among the total number of technical and managerial employees at our economic production units and enterprises has declined by a full 15 percent. One does not even want to think about what would happen if this trend were to continue into the future. Clearly, without technological development, without the rapid implementation of new ideas, production would not have, figuratively speaking, anything to live on, and our economy could not develop further.

The introduction of the Sea of Measures for Improving the Planned Management System has brought about the first positive changes in the attitude toward technological development, with the result that many enterprises and VHJ are beginning to be more aware of the fact that good design work is the basis of production. Nevertheless, the recognition that scientific and technical development are the axes of management and planning is penetrating societal practice only slowly, scientific and technical plans are not yet the basis of the concept for product development and little weight is given to the opinions of experienced designers and technicians. The result is that instead of consulting with the director, the designer in an enterprise must at times move from his drawing table to the production floor, where for the most part he performs unqualified jobs in order to fulfill the plan.

The lack of interest in the design profession and the high turnover in design firm offices are both leftovers from the extensive development of our economy when quantitative indicators were given precedence over the qualitative. Measuring achieved results solely in terms of tons, kilometers or hectoliters is no longer feasible, and the Set of Measures does not even permit it. This is why it is so important to change attitudes about designers and provide them with the psychic and material recognition and working conditions which they clearly deserve. This was expressed unambiguously from the podium at the 16th CPCZ Congress: If we are to realize the truly efficient implementation of scientific and technical progress as the main axis of the economic development of our society, then we must devote the requisite attention to designers in particular, reconfirm and emphasize their social role and prestige and give them our full support.

This implies that we must concern ourselves with a wide range of issues, beginning with elementary education, but especially in high schools and colleges, which must be focused more directly on the specific design requirements of particular sectors and professions in our national economy. The sophistication of design work, however, also depends on technology and various other aids. Design facilities, however, have remained, on the average, the same as they were 30 years ago: one may count on one hand the enterprises which have the most modern graphic systems at their disposal, those which are computer-controlled and make possible the saving of 40 percent of the time spent at the drawing board. And at times there are not available even the most fundamental reference books, without which it is simply impossible to perform quality work.

It will be necessary to rid ourselves of the unfortunate practice whereby, on the one hand, the work of a designer is anonymous within the enterprise, to say nothing of beyond its walls (even while the design collective may have received a gold medal at an international trade fair), while, on the other hand, it must always be known exactly who is responsible for the "imperfect brainchild," the occurrence of which is not unusual in areas demanding great rigor, responsibility and high risk.

The range of issues is, of course, much broader. Many pressing problems may be resolved within the framework of the enterprise, VHJ and sector. The most serious problem, however, is that of material compensation, particularly from the viewpoint of many years of experience. Nevertheless, given the current situation, it is scarcely feasible to request from managerial employees greater differentiation between excellent, good, average and poor work results if the current wage scale for designers and their position within the production organization makes possible such differentiation only to a limited extent. This issue must, then, be resolved at the center. And yet another comment in conclusion. Today we are writing about designers, but this does not mean that the serious problems of more rapid scientific and technical development are concentrated only in the above areas. Some time ago we printed an article in RUDE PRAVO by the head technologist of the Prague-Compressors Division of Ceskomoravksa-Kolben-Danek. He called our attention to the fact that a similar situation exists in technology, which is another area where there has been an ongoing departure of employees. It is clear from this that the problems associated with the implementation of new technologies are very broad. The comprehensive resolution of these problems is, however, much more pressing.

9276
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GERMAN DEMOCRATIC REPUBLIC

WEST GERMAN ANALYSIS OF GDR INDUSTRIAL DEVELOPMENT, PROGNOSIS FOR 1990

West Berlin DIW-VIERTELJAHRESHEFT in German Vol 50 No 3-4, Jul-Dec 80 pp 361-376

/Article by Manfred Melzer, expanded version of lecture presented by the author to the Second World Congress for Soviet and East European Studies held in Garmisch on 1 October 1980: "Problems and Prospective Development of Industry in the GDR--Prognosis of Growth up to 1990"/

/Text/ Growing Problems Compelled Renewed Reform Attempts

Economic Problems

For some years past the GDR economy has been confronted with significant structural changes, especially in industry. Since the mid-1970's the hefty rises in world market prices of raw materials and energy have been exerting pressure on the GDR which is poor in raw materials, because it has been unable to raise the prices of its export goods to anything like the same extent. Consequently the terms of trade deteriorated very considerably. Initially the GDR managed largely to evade the pressure for adjustment by borrowing from the USSR and Western industrial countries. As, due to the unfavorable economic development in the Western industrial countries the GDR was unable to raise its export revenues to the extent desired, the foreign trade imbalance grew. The recent new price rises and those to be expected in future have noticeably exacerbated the situation.[1] The GDR must therefore try to reduce the foreign trade imbalance by a large expansion of exports combined with reductions in imports--even at the price of weakening the progress of domestic consumption. Stagnating investments and only slight improvements in domestic supplies adversely affect the production potential and the people's willingness to work.

Increased export efforts require an expansion in the range of goods on offer, especially in direction more refined industrial products and qualitatively improved finished articles, coupled with the simultaneous improvement of export profitability. Cutting back on imports presumes considerable improvements in materials management. Neither is likely without significant changes in the production structure of industry.

The strain resulting from foreign trade difficulties also--and considerably--worsened some domestic problems which have been present for years. The planning system is therefore confronted with the difficult task of achieving adjustments to the changed world economic conditions while taking into account the new even more troublesom defects in efficiency. The industrial and economic growth of the future crucially depends on both. The five important domestic groups of tasks are dealt with below:

1) More Sensible Deployment of Manpower To Get Rid of Some Persisting Labor Intensive Processes and the Waste of Manpower

Complained of on the one hand is a noticeable lack of manpower, although more than 90 percent of all employable persons in the GDR are at work (including people in training).[2] This arises from the circumstance that manufacture is often far too labor intensive and, moreover, frequently proceeds in obsolete plants. On the other hand manpower is wasted, for example by the rather inadequate organization of processes ancillary to manufacture (such as warehousing, repairs, transportation), and the often extreme discontinuity of production procedures: Downtime and overtime endlessly take turns, labor turnover is persistently great[3] and, finally, control mechanisms and increased administrative duties require manpower which can no longer be used for production.

A few years ago the extreme obsolescence of plant required an expenditure on repairs of about M20 billion per annum. To carry out these repairs 670,000 workers were employed,[4] some 9 percent of all gainfully employed persons. The ratio is probably much the same now. However, this is still not enough to meet the increasing demand for repairs,[5] because productivity in repair work lies 40-45 percent below that in manufacture.[6] As per GDR data the annual output losses caused by downtime related to maintenance correspond to something like the amount of the annual growth in output.[7]

2) More Rational Utilization and Modernization of Existing Plant Combined with Restricted Investment Growth

For many years past the GDR has been inefficient in the use of capital: Too many and inadequately mechanized production processes as well as the insufficient disposal[8] of obsolete and the poor utilization of new plant--due to limited investment allocations. In 1978 so many unplanned projects were receiving investment funds[9] that the authorities had to intervene.[10] At the same time price rises became more and more burdensome.[11] Investments are badly prepared and their implementation takes too long; technical advances also are applied far too hesitatingly. This is due in large part to the enterprises lack of readiness to adopt innovations; on the other hand the regulations in force about the use of profits do not provide them with any real incentive to embark on significant improvements or accept business risks.

In view of the shortage of investments and the full exploitation of the manpower volume, intensification is a pressing need. Accordingly there is constant emphasis on the fact that "modernization of the existing machines and plant may" frequently "achieve the same or greater effect than new investments."[12] Advances in intensification are considered the main source of future growth.[13] Though this policy has been preached for years, it has not yet been possible to overcome the disparity[15] between more "new" and "saved" jobs.[14]

3) The Conservation of Scarce and More Expensive Materials Resources

The worldwide inflation in the price of materials resources compels drastic changes in their use. As more than 70 percent of production costs are accounted for by materials, and because more than half of all manpower in the producing sectors is employed in the production and transportation of energy, raw materials and other materials,[16] it is evident that considerable intensification successes may still be achieved by materials conservation. It is intended, for example, in the chemical industry better to utilize oil and natural gas by a greater degree of refinement, in ferrous metallurgy to make plates less liable to corrosion by galvanization and the application of paint or plastic coatings and, in nonferrous metallurgy, to conserve precious metals by, for example, the improved prefabrication of components for electrical engineering. In general the metal processing industry is expected to conserve materials on the basis of more rational prefabrication in the earlier production stages also.[17]

Future economic growth is to be achieved as much as possible with unchanged or only slightly increased energy and materials consumption. The GDR economic leadership therefore proceeded to ration energy, heating oil and motor fuel,[18] further cut stocks, mandate increased recycling of secondary raw materials[19] and, since 1 August 1980, further restrict the speed limits for commercial vehicles.[20]

As regards the construction industry, the 1981-1985 Five-Year Plan requires[21] material conserving designs to achieve annual reductions in specific materials consumption (3.9 percent for rolled steel and lumber, 2.5 percent for cement), and by 1985 to reduce energy consumption by 30 percent by means of improved insulation. The building materials industry is expected to achieve at least three quarters of the planned output growth without calling on additional energy.

4) Speed-up of Technological Progress

Up to now scientific-technological progress failed to speed up owing to the fact that research tended to be insufficiently relevant to practice and, at the same time, parallel research occurred quite often. Moreover research capacities tended to be fragmented into too many single projects on the one hand, while on the other an insufficient volume of research topics were dealt with; also research institutes were not subject to the principle of economic accounting, nor, in view of the method of price fixing in force, did the enterprises have enough incentive to adopt innovations. It turned out to be a particularly difficult problem that the transfer of research results to production in the GDR took an unduly long time, thus devaluing new developments. Furthermore innovations often involved a great deal of research costs which tended to make them appear less profitable than traditional productions.[22]

Research processes and their possible successes do not lend themselves to proper inclusion in planning, and usually it is almost impossible to predict meaningful development trends. The GDR therefore tries to at least cope with some of the defects mentioned above by incorporating a considerable section of the research potential in the enterprises and combines. Moreover, the danger of falling behind in foreign trade compels the most far reaching encouragement of research at enterprise level also. The proportion of research capacities incorporated in enterprises rose from two thirds in the early 1970's[23] to 90 percent now.[24] Management is expected rapidly to transfer the best results to production and at the same time achieve the greater refinement of raw materials and other materials. Also expected is the accomplishment of advanced rationalization by way of the increased utilization of microelectronics,[25] electronic control and regulation devices as well as automation technology. In 1980 M7.6 billion in state money were allocated to research and development.[26]

5) Reduction in the Problems of the Management System

In recent years management defects have been noticeable in addition to the defects of a complicated and rather labor intensive planning apparatus,[27] and so have the weaknesses of the methods of efficiency planning[28] introduced in the mid-1970's. GDR authors cite as external features[29]: Declining growth rates, failure to meet demand, downtime, overtime, special shifts, stagnation with regard to innovations, rising employee discontent and increasing complaints from below. The causes of all this are serious functional weaknesses: A communication system oriented more to the demands of the center and therefore neglecting other management levels; overlapping decisionmaking powers of central agencies; lack of consultation in plan drafting; defects in the coordination of relations which transcend industries; reluctance of superior organs to make decisions, and the lack of flexibility in coping with disruptions.

Reform of the Combines

In addition to some improvements in planning methods[30] the GDR economy expects the problems cited to be largely resolved by the latest wave of combine establishment.[31] According to Honecker this is "currently the most important step tward the perfection of management and planning," because "the crucial stages of the reproduction process--from research and development by way of planning and the construction of rationalization aids up to the actual production, inclusive of quality determining components, and the sale of the products at home and abroad--are all handled by the combine."[33] The combines are expected to provide for:

-- The speed-up of scientific-technological advances by combine-germane research,

-- More efficient investments, both by better preparation and by the quickler implementation of projects,

-- Lasting rationalization successes, both by the sensible coordination of output and the disposal of obsolete equipment, accompanied by the greater utilization of new plant,

-- The better resolution of component problems by the incorporation of suitable enterprises,

-- Qualitatively attractive products as well as the increase in exports by improved market research and the incorporation of foreign trade enterprises.

At the same time an improved management system with short lines of communication is to arise by the reduction of the management stages in the national economy from three (ministry--VVB /association of state enterprises/--enterprise/combine) to only two (ministry-combine). The incorporation of component supplier enterprises is intended to ease part of the hitherto industry-transcending coordinations, and the concentration of capacities is expected to yield definite improvements in efficiency.

The central organs hope to ease their planning and management duties while, at the same time, being able to improve results by carrying out plan coordinations and other synchronization processes with better organized combines, and also by transferring some of the plan breakdown and balancing tasks to combine bodies. The combines are expected on the one hand better to cooperate with the ministries and, on the other, by way of the general director to achieve a certain harmonization of central targets with selected enterprise goals, enforce greater consideration for the real production potential and build up a more appropriate internal organization (for example the greater concentration of production preparatory, executive and sales oriented processes).[34] Intensification successes, in particular, cannot easily be planned "from above." They seem more likely of achievement in the combines directly and, therefore, also more quickly and efficiently. The general director thus assumes a dual function: He is at one and the same time the "agent of the minister" and an "entrepreneur."

Since early 1980 GDR industry and construction has had 129 combines directly subordinated to ministries, which account for at least 90 percent of the persons employed in the centrally managed sector of both.[35] The 110 combines of industry turn out about 90 percent of total industrial production. In 1973 there were only 37 combines in industry, in 1977: 43 (their share in total output was 30 percent). In early 1979 the incidence of combines had risen to 89, accounting for 72 percent of total industrial output.[36] The combines in industry employ an average of 27,000 personnel. Some 60 percent of all combines of industry are subordinated to 4 of the 11 industrial ministries,[37] just below 25 percent to 2 ministries.[38]

Though the primacy of central planning and the central distribution system for work done in previous stages has been basically maintained, this restructuring has given the combines more decisionmaking powers:[39]

-- By eliminating the VVB's the decisionmaking powers of the earlier intermediate management level were transferred to the management bodies of the combines;

-- The growth in size and the incorporation of enterprises not germane to the respective industry has increased the decisionmaking scope of the combines by comparison with the earlier VVB's;

-- Additional powers regarding the internal structure of the combines have clearly expanded the decisionmaking scope of the top combine management at the expense of the combine units;

-- Increased cooperation in coordination processes between general directors and the competent minister have produced a definite increase in the powers of the combines.

Details are settled in the new combine decree.[40] It is particularly interesting that the general director may change or transfer both the functions and duties of combine units as well as set up new operating sections or transfer capacities and productions to other units. He is also entitled to carry out the centralization of tasks (such as research, investment, sales, market research, accounting). By way of state functions the general director assumes price fixing operations, standardization duties and tasks involved in socialist economic integration, in addition to planning and balancing duties.

Despite the greater decisionmaking power of combines, though, the ministries still retain far reaching powers to intervene in actual operative problems, and these powers extend to the combine units. Moreover, adverse effects are bound to arise from the fact that the powers of the general director to restructure and change programs of the subordinated units as well as centralize and redistribute financial resources[41] have further weakened the independence of the units, and this can hardly be considered an incentive for direct improvements in unit output: Units may, for example, be assigned central targets. Funding also is up to the top management of the combine, and this is sure severely to damage unit interest in cost savings.[42]

However, once the initial frictions related to the establishment of combines are dealt with, certain improvements in productivity are likely to arise from sensible restructuring and the reconstruction of entire enterprise sectors.[43] How significant these will be is not yet certain, because the precondition is for the emergence of general directors rich in initiative, who are able not only to break through bureaucratic obstacles while pursuing state targets but also persuade the minister to compromises as regards targets and inspire efficiency-effective improvements despite the price distortions.

It is a help that, since March 1980, two new indices have been introduced in plan reporting, in addition to the gross index "goods production" which has a definitely adverse effect on materials use. They are "net production" and "materials costs per M100 goods production."[44] These indices exert pressure on enterprises and combines regarding the conservation of energy and raw materials. Furthermore, to enforce manpower savings and, therefore, achieve advances in productivity exceeding production growth, it has become mandatory in the coming five-year planning period to more strongly link the plan part "productivity and manpower 1981-1985" with the plan "science and technology."[45] In general the five-year planning of combines will be strengthened, the incorporation of innovation processes in planning increased, the inclusion of long-range development concepts intensified and the importance of qualitative indices raised.[46]

Aspects of Price Problems

It was not possible to obviate by subsidies alone the rise in the prices of raw material imports and the worsening of the geological conditions for the mining of domestic brown coal. Without domestic price changes there would have been no impetus for materials conservation. The crucial problem is that of converting the production structure to the more expensive inputs. The GDR's economic leadership was therefore compelled to raise domestic prices: In early 1976 higher prices were established for raw materials and raw material intensive products[47] and, from 1977 on, for semifinished products, spare parts and some finished products.[48] More price corrections followed in early 1978 for specialized chemical products, machines and equipment as well as more spare parts;[49] since early 1979 higher prices have also been in force for construction and assembly services as well as for finished products.[50] As these price rises were not supposed to affect the consumer, it was necessary to catch the increased costs arising for the producers of consumer goods and industrial consumers who were not permitted yet to raise the prices of their end products, in part by a price equalization fund involving changes in taxation, in part by efforts at improving productivity. This situation is made more serious by the many uncertainties to which enterprises and combines are exposed with regard to future price trends on import and export markets as well as the domestic price policy decreed by the government authorities.

In early 1980 more price corrections were mandated for many of those raw materials and other materials which had already undergone price rises in 1976; however, their level corresponded at best to the cost situation in early 1979, not to the increases which occurred after that point. Prices of raw materials and fuels were raised, also of some construction and assembly services, building repairs, building materials and investment services.[51] In the meantime more corrections have taken place, including higher prices for consumer goods-- especially better quality merchandise.

It is a cause of concern that domestic price corrections always lag behind the increase in import prices. Moreover, the inflated prices of the raw materials involved are merely added to price groups which have always been distinctly distorted and based on sharply differing computations. The price fixing methods for new and further developed products therefore provide no more than a limited incentive for innovation.[52]

Structural Changes Call in Question Earlier GDR Growth Concepts for Industry

Long-range but Outdated GDR Growth Concepts

Two sources provide information about the long-range plan targets for industry of the GDR economic leadership:

- The long-range development conception[53], to be interpreted as an orientation outline, assumes a 7 percent average annual growth. Actually achieved in the years 1960-1979 was an average of 6 percent (1970-1979: 6.1 percent; 1970-1975:6.8 percent).
- The plan targets of the now ending 1976-1980 Five-Year Plan[54] assumed a 6 percent annual growth of industrial production. Achieved until 1979 in the course of fluctuating development was an average of only 5.1 percent per annum (1976: 6.1 percent, 1977: 4.7 percent, 1978 and 1979: 4.8 percent each). Should the plan target for 1980 be met (4.7 percent), the actual growth in the total of the five-year plan period will have been 5 percent.

As the 1973 GDR target projection obviously originated at a time when the worldwide inflation of oil and other raw material prices was not yet foreseeable, the noticeable diminution of growth targets for the current five-year plan period and the failure to achieve even these targets must be considered in connection with the problems discussed earlier. They confronted industry especially--the most important sector of the economy--with significant problems of adjustment. This, precisely, makes any forecasts very difficult now.

Structural Problems To Be Resolved by Industry

GDR industry is compelled to carry out far reaching structural changes, in particular to conserve energy and materials but also because some productions hitherto encouraged seem no longer profitable when considering the new input prices:

-- Necessary for the improvement of the material-technical base is the far reaching encouragement of the use of domestic raw materials and energy coupled with reductions in high specific energy consumption. It is imperative, despite more unfavorable geological conditions, to develop new brown coal strip mines and eliminate the bottleneck electricity production by emphasizing investments (the construction of coal-fired and nuclear power plants). Some 60 percent of all industrial investments are therefore earmarked for securing raw materials and other materials.[55]

Distribution of Industrial Investments (percentages)

	Actual			Plan
	1960-1965	1966-1970	1971-1975	1976-1980 1)
Basic materials production	66	52.9	55.0	60
Water supply	6	5.9	4	4
Investment goods industries	16	24.8	22.3	19
Near-consumer sectors	12	16.4	17.9	17

1) Official data; in part estimated.

-- In the GDR more than one third of all oil is used for fuel and 40 percent for motor fuel. The conservation of diesel fuel in turn requires a shift of traffic from road to rail, but this presumes far greater electrification of the railway[56] and, therefore, more demand on the expansion of the rail network and the construction of locomotives.

-- The chemical industry accounts for 10-15 percent of oil use.[57] A further restructuring to a more modern refinement chemistry is therefore urgently needed. To be encouraged here on the one hand is oil processing in more advanced forms of utilization and, on the other, the production of synthetic materials, synthetic fibers, pharmaceuticals, dyes, agrochemicals, cosmetics and household chemicals. There are also efforts to revive carbon chemistry in order to utilize brown coal for more refined products by way of carbide, gas and dry distillation productions. Energy and raw materials intensive chemical productions, on the other hand, are to be shifted to CEMA countries which have ample energy and raw materials sources.[58]

-- As for metallurgy, it will still be necessary to encourage the production of high quality steels and rolling mill products while reducing capacities for less refined products (which are extremely energy intensive), and importing more of the latter.

-- The building material industry is faced with the task of promoting the materials needed for modernization and reconstruction measures and, at the same time, increasingly using secondary raw materials. At the same time it must raise the production of high quality insulation and insulating wall components.[59]

-- Construction expenditure on industrial investments is to be reduced by 15 percent through 1985, thereby lowering the construction ratio from 29 percent to 25 percent.[60] This means that industry is to increasingly overhaul existing buildings rather than constructing new ones, so that new construction capacities may be used for housing construction instead.

-- Required are significant improvements in the assortment structure of consumer goods, regarding both quality and customer wishes, in order to better meet the demands of the domestic and export markets.

-- Both the problem of intensification and the desired changes in the product structure at all stages of production pose tremendous challenges to the manufacturers of investment goods. On the one hand they are supposed to develop adaptable capital goods and high capacity and materials conserving plant, on the other hand encourage the production of new types of goods by the appropriate equipment and technologies (such as EDP equipment, semiconductor production, microelectronics, control equipment, modern chemical plant, efficient assembly and transportation processes). This, however, presumes a steady flow of investments by the producers of capital goods and, in view of the shortage of investment resources, it is unlikely that enough of them can be made available. That is why strenuous efforts are made to encourage the production of rationalization aids within the combines themselves, even though this procedure is bound to be less efficient.[61]

The Difficulties of Forecasts

In this situation, featuring many imponderables and considerable structural changes, it is virtually impossible to arrive at a meaningful forecast of the long-term development of industries. Moreover, since 1968 GDR industrial reporting has been converted to a vastly different industry arrangement with only 10 instead of the former 20 sectors, and for which no conversion key has been provided. We therefore lack comparable long-term series of data for the past as well as plausible dimensions for the shifts to be expected in future.

In view of the many problems involved it will be extremely difficult to decide even for industry as a whole whether a return to higher growth rates may be expected in the years 1981-1990--as would correspond to the target conception of the current five-year plan, or whether we must assume as more realistic the maintenance of the earlier medium-term targets or even a lower growth rate.

As we lack any data on the target conceptions of the future five-year plan, it appears appropriate on the one hand to pursue the question how much realism may be attributed the following two plan variants for the average annual growth of industrial gross production (or productivity) in the years 1981-1990:

	Output	Productivity
1)	+ 6.5 percent	(+ 6.1 percent)
2)	+ 5.5 percent	(+ 5.1 percent)[62]

Variant 1) would presume that the effects on the GDR of the world raw materials crisis could be mastered in the first haf of the 1980's, certainly an unduly optimistic assumption. Variant 2) is based on the annual plans of recent years (1978:+ 5.7 percent, 1979:+ 5.5 percent, 1980:+ 4.7 percent).

On the other hand we must investigate what annual average investments may in future be expected for industry, and how much growth in fixed assets is therefore likely. To do this, however, we need to discuss the complicated valuation problem for capital assets and refer back to the GDR's industrial capital account. This is just as indispensable as the question of the price effects occurring in industrial investments and to be expected in future.

Forecast of the Development of Employment in Industry

Method

Using the figures of population trends, the birth rate and the general death rate in the GDR, an earlier study of DIW forecast the development of the population as well as total employment--divided into 5-year sections:[63] The employment volume (including employed persons not reported in the official statistics) for 1990 may be estimated at 9.36 million.

The forward projection of the statistics of people employed in industry (excluding water supply proceeded in the following three steps (according to official classification):

- The figures for the period 1979-1980 were based on yearly shares of the additional deployment of 130,000 employees in industry, planned for 1976-1980[64], distributed as per the trend of the DIW forecast data respecting the population of working age.

- In the DIW study cited the period 1981-1985 was assigned a total increase in employment of 236,000 persons. Taking as a basis the percentage (so far) of persons employed in industry in the total of employed persons (42 percent), we get an absolute increase of 100,000 employees in industry. This volume was allocated to the 5 years as per the forecast trend of the population of working age.

- Using the same method of calculation, we arrive at an absolute increase in persons employed in industry of only 27,000 in the period 1986-1990, which--in view of the decline in the population of working age from 1987-1988 on--had to be allocated to the years 1986 and 1987.

Results

The industrial employment volume (excluding apprentices) will rise from 3,103 million (1978) to 3,299 million in 1990. That corresponds to a total increase of 6.3 percent and an average annual growth of 0.5 percent. The main reason for this development is the improving age structure of the population. The greatest increases are to be expected in the years 1979-1983--with annual increases ranging from 25,000-40,000 employed persons.

Blue and White Collar Workers (Excluding Apprentices) 1978-1990

Year	1,000 Persons	Increase Compared to the Previous Year (percentage)	Year	1,000 Persons	Increase Compared to the Previous Year (percentage)
1978	3,103	0.4	1984	3,271	0.2
1979	3,130	0.9	1985	3,273	0.1
1980	3,173	1.4	1986	3,283	0.3
1981	3,201	0.9	1987	3,292	0.3
1982	3,232	1.0	1988	3,299	0.2
1983	3,263	1.0	1989	3,299	0.0
			1990	3,299	0.0

Forecast of the Development of Future Gross Fixed Assets

The Industrial Capital Account of the GDR

The starting point for the development of the industrial GDR capital account were the results of the revaluation of the fixed assets of industry as of 30 June 1963[65] at 1962 replacement costs and the official forward and backward projection for the period 1957-1966.[66] As a consequence of the labor intensive revaluation[67] the value of stocks (appraisals differed sharply) rose by an average of 52 percent.[68]

However, these data still suffer the defects of the valuation:

-- As the asset valuation was carried out at 1962 replacement prices, these were subject to many distortions (which existed before the industrial price reform).[69] Also unconsidered were shifts in price ratios, which have occurred since.

-- Even more complicated turned out to be the circumstance that, if the price development of capital equipment was based only on the average revaluation rate, it was impossible from these data--taking into account investments, disposal and disassembly--to find a meaningful link with the prewar assets of the former German Reich, which are now within the territory of the GDR.

A resolution of the latter problem could be achieved only by way of the introduction of a current price index of investment goods.

The average revaluation rate of 1.52 could be interpreted as the average of the rate for the various age groups of the stock. That, however, meant that the inflation in investment prices in 1962 compared with 1944 could have been substantially greater than 52 percent, because the stock of 1963 included a very considerable proportion of capital goods which were only a few years old--with only a low revaluation rate--, but also a similar proportion of older goods groups--with higher revaluation rates.

Taking into account the scant empirical indications on the development of GDR prices of capital goods, it was possible by way of an empirical model computation to develop a current price index[70] which allowed the construction of a capital account for the period 1936-1978[71] (see table 1). These asset data are also corrected by those price influences hidden in the fixed price system, which constantly occur by disguised price increases by way of changes in the product. These data coupled with data of employment and gross output provided the basis of the following forecast (see table 2).

Various Test Computations

The progress of capital productivity showed distinct jumps in the past, so that the annual average growth is significantly affected by the choice of the period of reference: In the years 1955-1970 it amounted to + 1.4 percent, 1960-1970, however, in view of the distinct decline in the first half of the 1960's, to only + 0.5 percent[72]; 1965-1979 it was + 1.1 percent; 1975-1979 only + 0.6 percent.[73]

It seems hardly imaginable that the GDR could succeed in the next 10 years to raise the level of the average rise in capital productivity to more than 1 percent per annum. I therefore propose in two parallel computations to assume the following average annual growth: A) + 1.0 percent and B) + 0.6 percent. By comparison with the past 3 years both assumptions presume a speed-up in the growth of capital productivity. This is supported by the expectation that the latest wave of combine establishments is likely to result in at least some significant improvements in efficiency.

With respect to the increase in capital productivity listed under A (or B) the following requisite average real growth of gross fixed assets may be deduced from the forward projected values and the above forecast of output:

	A	B
For variant 1:	+ 5.4 percent	(or + 5.9 percent)
For variant 2:	+ 4.5 percent	(or + 4.9 percent)

Projection of Gross Fixed Assets by Means of the Regression Analysis

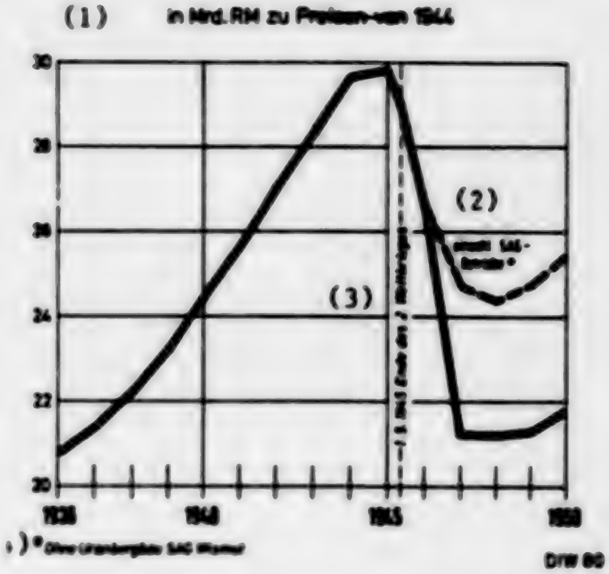
By using the employment data forecast earlier and the two assumed target projections for output it is possible also to ascertain the development of industrial gross fixed assets through 1990 with the help of a linear multiple regression analysis.[74]

In our forecast through 1990 we then get a necessary average annual growth of industrial gross assets for the two variants of output development as follows:

Variant 1: + 6.1 percent
Variant 2: + 5.1 percent

When we compare these results with those obtained by projecting capital productivity, we note a definite resemblance with variant B.

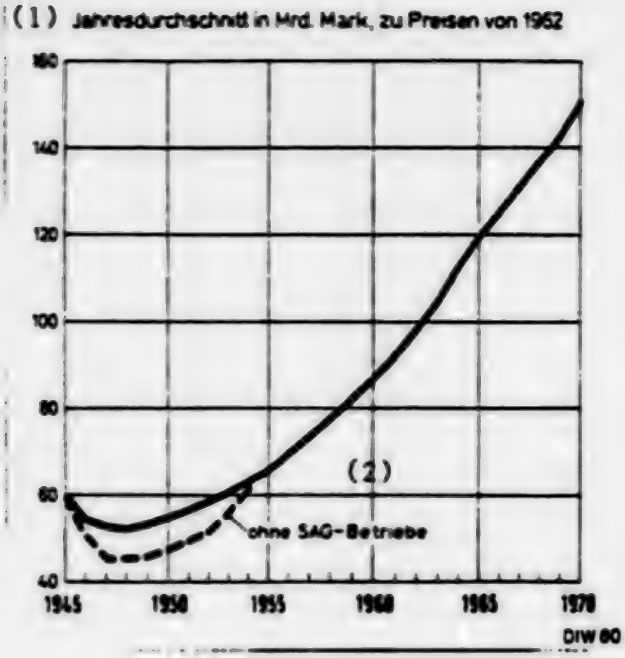
Graph 1--Gross Industrial Fixed Assets in the Territory of the GDR, 1936-1950



Key:

1. Billion Reichsmark at 1944 prices
2. Including SAG /Soviet corporations/
3. 1.5 1945, end of World War II
4. Excluding Uranium Mining SAG Wismut

Graph 2--Gross Industrial Fixed Assets in the Territory of the GDR, 1945-1970



Key:

1. Annual average in billion marks, at 1962 prices
2. Excluding SAG enterprises

Projection of Capital Intensity at Constant Growth

We can also arrive at a forecast when stipulating the growth of capital intensity. It must be admitted, though, that this index tended to fluctuate quite strongly in the past: In 1955-1970 average annual growth amounted to 5.0 percent, from 1970 onward--due to restrained investments especially in the first half of the 1970's--to only 3.5 percent; in 1970-1975 it amounted to 3.4 percent and in 1975-1979 to 3.7 percent.

As, in view of foreign trade difficulties, domestic expenditure in the 1980's will most likely grow less than the produced national product, we can assume only a limited investment development unless private consumption is to be cut very sharply. Even if industry were always to receive preferential treatment with regard to investment allocations, it is not realistic to expect a speed-up in the growth of capital intensity for several years to come. When we trace a trend by the values of capital intensity since 1960, we do admittedly get different forecast data corresponding to the function type used, but all of them have in common a decline in the annual growth.[15] As employment data will stagnate from 1987 on, asset growth will be fully reflected in the intensity figure. Therefore the decline in growth will cease by that year.

It seemed justifiable, therefore, for the sake of simplification to assume a 3.4 percent constant growth in capital resources per employee. Related to the predicted employment trend this corresponds to a 3.8 percent annual growth of assets. By comparison with the test computations carried out in a) and b), we are basing ourselves on a distinctly lower asset growth. This in turn means that the assumed target projection would have to presume rather high average growth in capital productivity:

For variant 1: + 2.4 percent
For variant 2: + 1.5 percent

Intermediate Results

The earlier results show that the following will be required to achieve the two variants of assumed production target concepts through 1990:

- -- Either, upon the assumption of a real annual 3.8 percent growth of gross fixed assets--corresponding to a 3.4 percent annual growth of capital resources per employee--capital productivity would have to rise considerably more than it has done heretofore (+ 2.4 percent or + 1.5 percent);
- -- Or, when taking as the basis a realistic increase in capital productivity ranging from 0.6 percent to 1.0 percent per annum, gross fixed assets would have to grow by 4.5 percent to 5.9 percent per annum,[76] more than was achieved in recent years.[77]

As neither is probable, we will have to base the forecast model on the greatest possible growth likely of industrial investments.

Achievable Future Investment Growth

When we calculate the accumulated investment volume of the past 18 statistically reported years, we obtain the following result:

Industrial Investments (excluding Water Supply) Excluding Major Overhauls at Comparable 1967 Prices

1961 to 1975	M 209.1 billion 1)
1976-1978	M 68.9 billion 2)
	M 278.0 billion
+ Major overhauls 1961 to 1978 3)	M 20.9 billion
= Industrial investments (including major overhauls)	M 198.9 billion

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1) See "Statistisches Jahrbuch der DDR 1976" /1976 GDR Statistical Yearbook/, p 3.

2) See 1979 GDR Statistical Yearbook, p 79. The values reported there for industry (including water supply) were adjusted by estimated values for water supply and converted from the 1975 price base to the 1967 price base. The conversion factor used was 1.014, the average price factor arising when official investment data for industry for the years 1970-1975 are related to the price basis for 1967 and 1975.

3) Estimated.

Conversion to the 1963 price base is required[78] in order to be able to relate these values to those of gross fixed assets. After the official price adjustment, the accumulated industrial investment volume (at 1962 prices) for the years 1961 to 1978 amounts to M259.9 billion.

This investment volume compares with the officially reported increases in industrial gross fixed assets amounting to M169 billion. This means: Only 65 percent of investment effected increases in assets, 35 percent served to replace equipment disposed of or represented uncompleted projects. When we introduce the hypothetical price index explained earlier, in order to make possible a price adjustment for the "hidden price rises by changes in products" not considered in the official statistics, we see that industrial fixed assets have risen in real terms by barely M133 billion.

At a real 4.5 percent annual growth of gross fixed assets, industrial assets in 1990--at real constant 1962 prices--would amount to M371 billion. The absolute increase by comparison with the 1978 stock would be M152 billion. If we assume 3 percent annually for the future development of the prices of investment goods, nominal calculations arrive at an accumulated absolute total rise in industrial assets of M307 billion.[79]

When we assume that the volume of retirement and unfinished projects--related to the investment volume--will amount to 30-35 percent in future also (in view of the serious obsolescence of the GDR equipment stock), we must calculate an accumulated investment volume for industry (excluding water supply) in the amount of M440-475 billion in the years 1979-1990. On the basis of these accumulated values for the 12 years mentioned, and assuming an investment volume of 1978 (including major overhauls) in the amount of M22.1 billion at 1962 prices,[80] this corresponds to an average annual 7.5 percent to 8.5 percent[81] of industrial investments.

The juxtaposition of the average annual growth of investments for various past periods is shown by the growth rates in the following survey.

In the past 10 years average annual growth was well below the at least 8 percent rate required (the exception was 1976, when total economic investments also rose substantially).[82]

Gross Asset Investments[1)]

Period	Total Economy[2]	Industry	
		Including	Excluding
		Water Supply	
1960-1975	6.3		6.5
1960-1965	4.9		7.2
1965-1970	9.9		8.9
1970-1975	4.1		3.4
1976	7.4	8.3	7.8
1977	5.6	6.9	
1978	3.0	5.4	
1979	1.4	2.5	
1980 Plan	0.0	2.4	

1) Excluding major overhauls.-- 2) excluding investment participation abroad

In the five-year plan period now ending the planned increase in all investments (excluding major overhauls) amounted to 5.2 percent.[83] No plan figure was published for industry, and growth here probably did not exceed 6 percent. Should the target of the 1980 plan be met, industrial investment would finish with an actual average growth of 5.6 percent (a little less when general overhauls are excluded).

The restriction of investment growth and the plan arrears are due to the GDR's difficulties arising from the substantial increases in prices of raw material imports. There are also the difficulties cited earlier in the investment sector, which eventually had the result that the projects scheduled to begin as per the 1980 plan were cut from 450 to 250.[84]

In the next 10 years raw material problems will continue to loom large and therefore further limit the growth of investments. At best the GDR might succeed in achieving a limited improvement in the goods structure and efficiency of exports by scotching some of the increases in raw material prices by raising export prices and, at the same time, passing on some of the additional costs to domestic consumers by appropriate pricing. However, in view of the necessary further expansion of the domestic raw material base it seems unlikely that the large proportion of industrial investments for the encouragement of the basic material sector can be reduced. It is to be expected, therefore, that both the growth of total investments as well as that of industrial investments will decline by comparison with the current five-year plan average.

Assuming a 4.6 percent annual rise in investments for the economy as a whole, the rise for industry to be predicted can be no more than 5 percent per annum--at best. Here we would have to assume that the in-enterprise production of rationalization aids[85] and the reconstruction of complete plants (instead of some equipment only) will continue to be encouraged[86] in order to raise the utilization of the existing asset stock. This growth of industrial investments (including major overhauls) would correspond to an annual 3.8 percent[87] growth of assets in real terms--assuming a hypothetical annual price effect of 3 percent.

Forecast Values for Industrial Assets

In accordance with the assumptions of the model computation the gross fixed assets of GDR industry--calculated at constant 1962 prices--will increase from just over M228 billion (1979) to just under M345 billion (1990). This corresponds to a total increase of 51 percent and an annual average rise of 3.8 percent. The following sequence of data gives the details:

Forecast of Gross Fixed Assets of GDR Industry[1)] Through 1990 (in billion marks at constant 1962 prices)

Year	Billion Marks	Year	Billion Marks
1978	218.7	1984	278.3
1979	228.4	1985	288.8
1980	238.0	1986	299.6
1981	247.8	1987	310.6
1982	257.7	1988	321.8
1983	267.9	1989	333.2
		1990	344.8

1) Excluding water supply

Forecast of the Future Outout Volume

Projection of Capital Intensity and Capital Productivity

The data predicted for gross fixed assets and employment enable us to determine the absolute capital intensity for the period of the forecast. The values thus ascertained disclose that we may expect just about 3.4 percent annual average growth in capital intensity in the next 10 years.[88]

To be taken as the basis for 1979 and 1980 annual increases in output development are 4.8 percent and 4.7 percent respectively (1980 plan). The corresponding rates of increase in capital productivity would then be 0.4 percent (1979) and 0.5 percent (1980). The later development of capital productivity can only be estimated. In view of the trend of recent years it appears justified to hazard the optimistic assumption that capital productivity will rise by an average 1 percent per annum through 1990. This presumes that, on the one hand, the planning of major and well prepared rationalization projects as well as the limitation to important and specially productive investment projects will result in distinct advances. On the other it means that decidedly positive effects of combine establishment will have to occur. Although this is a plausible assumption, its quantification is subject to a good deal of uncertainty in view of the many problems outstanding in the internal structure of the combines.

When we stick by our assumption, the following sequence of data presents itself:

Forecast Values of Capital Intensity and Capital Productivity in GDR Industry[1)]Through 1990

Year	Capital Intensity[2)]	Capital Productivity[3)]	Year	Capital Intensity[2)]	Capital Productivity[3)]
	1,000 marks	Marks		1,000 marks	marks
1978	70.5	1,075	1984	85.1	1,128
1979	73.0	1,079	1985	88.3	1,139
1980	75.0	1,084	1986	91.3	1,150
1981	77.4	1,094	1987	94.3	1,162
1982	79.7	1,105	1988	97.5	1,173
1983	82.1	1,116	1989	101.0	1,185
			1990	104.5	1,197

1) Excluding water supply.-- 2) Gross fixed assets per blue and white collar worker (excluding apprentices).-- 3) Gross output per M100 gross fixed assets.

Projection of Output and Productivity

The values thus ascertained allow us to determine the absolute dimension of productivity[89] for every year of the period forecast. By multiplying these values with the employment data forecast, it is possible to calculate the absolute volume of output. The following survey gives the data ascertained by means of the assumptions of the forecast model:

Forecast Values of Gross Output and Productivity in GDR Industry[1)] Through 1990

Year	Gross Output[2)] billion marks	Productivity[3)] 1,000 marks	Year	Gross Output[2)] billion marks	Productivity[3)] 1,000 marks
1978	235	75.7	1984	314	95.9
1979	246	78.7	1985	329	100.5
1980	258	81.3	1986	345	105.0
1981	271	84.7	1987	361	109.6
1982	285	88.1	1988	378	114.5
1983	299	91.7	1989	395	119.7
			1990	413	125.1

1) Excluding water supply.-- 2) Gross output at 1967 price base.-- 3) Gross output per blue and white collar worker (excluding apprentices).

Assuming a future annual 5 percent investment growth, a 3 percent annual average price effect for investments and a future 1 percent annual growth rate of productivity, the forecast here presented arrives at the conclusion that

a) Output will increase by an average 4.8 percent in the years 1981-1990, and
b) Productivity will rise by an annual average of 4.4 percent in the same period.

Should investment growth be lower, investment prices rise more, or capital productivity develop less well than assumed, output growth must necessarily be less also. Decisive, therefore, are the combine effects--achievable but difficult to forecast. In the first half of the 1980's they should certainly be assessed higher than hereafter. Should, however, their effect be limited or if initial successes are followed by a lasting decline, the above forecast would be too optimistic.

Table 1--Gross Fixed Assets, Gross Output and Employment in GDR Industry 1960-1978

(1) Industriebereich	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978	(2) Entwicklung 1960-78 1960=100	Entwicklung 1970-78 1970=100
(3) **Brutto-Anlagevermögen** (Jahresdurchschnitt in Mrd. Mark 3))													
(4) Energie- und Brennstoffindustrie	22,2	32,6	39,3	41,0	42,8	44,7	47,0	49,3	51,7	53,9	56,4	254	144
(5) Chemische Industrie	17,1	23,3	30,5	32,2	33,8	35,8	37,9	40,4	42,5	44,0	45,8	268	150
(6) Metallurgie	5,3	7,5	9,7	10,1	10,5	11,0	11,5	12,1	12,7	13,3	13,8	260	142
(7) Baumaterialienindustrie	3,3	4,9	5,9	6,3	6,6	7,0	7,3	7,5	7,9	8,2	8,6	261	146
(8) Maschinen- und Fahrzeugbau	12,8	19,4	24,5	25,9	27,3	28,8	30,2	31,7	33,4	34,9	36,5	285	149
(9) Elektrotechnik, Elektronik, Gerätebau	3,7	5,5	8,1	9,0	9,7	10,3	10,9	11,5	11,9	12,4	13,0	351	161
(10) Leichtindustrie 1)	7,6	9,8	11,7	12,2	12,7	13,5	14,3	15,0	15,8	16,6	17,4	229	149
(11) Textilindustrie	6,2	7,3	8,0	8,2	8,4	8,8	9,2	9,7	9,9	10,2	10,5	169	131
(12) Lebensmittelindustrie	7,8	9,2	11,6	12,2	12,7	13,3	13,9	14,5	15,1	16,0	16,7	214	144
(13) Gesamte Industrie 2)	86,0	119,5	149,3	157,1	164,5	173,2	182,2	191,7	200,9	209,5	218,7	254	147
(14) **Brutto-Produktion** (in Mrd.Mark)													
(4) Energie- und Brennstoffindustrie	5,5	6,8	8,1	8,7	9,1	9,6	9,8	10,3	10,9	11,3	11,9	216	147
(5) Chemische Industrie	9,9	14,5	21,0	21,8	23,6	25,6	28,1	30,5	32,6	34,2	35,9	364	171
(6) Metallurgie	6,8	8,4	11,4	12,2	13,0	14,0	15,0	15,8	16,7	17,4	18,1	265	159
(7) Baumaterialienindustrie	1,6	2,3	3,0	3,2	3,3	3,5	3,9	4,1	4,3	4,5	4,7	289	155
(8) Maschinen- und Fahrzeugbau	18,0	25,9	36,3	38,1	41,2	43,7	46,4	48,9	52,0	54,9	57,8	322	159
(9) Elektrotechnik, Elektronik, Gerätebau	5,6	8,8	13,9	15,2	17,2	19,1	21,1	22,7	24,8	26,7	28,8	517	208
(10) Leichtindustrie 1)	9,8	12,1	16,3	17,1	19,0	20,5	21,9	22,9	24,4	25,3	26,3	269	162
(11) Textilindustrie	7,2	8,2	10,1	10,6	11,8	11,9	12,7	13,3	14,0	14,5	15,1	210	148
(12) Lebensmittelindustrie	17,1	20,4	25,4	26,9	28,9	30,2	31,8	33,4	34,5	35,5	36,4	212	143
(13) Gesamte Industrie 2)	81,5	107,4	145,5	153,8	167,1	178,1	190,7	201,9	214,2	224,3	235,0	288	162
(15) **Arbeiter und Angestellte** (ohne Lehrlinge, in 1000 Personen)													
(4) Energie- und Brennstoffindustrie	198	205	174	183	187	191	195	195	196	199	201	102	115
(5) Chemische Industrie	304	316	323	323	329	333	334	335	335	334	335	110	104
(6) Metallurgie	111	116	121	123	123	124	126	127	129	129	129	117	108
(7) Baumaterialienindustrie	94	89	92	90	94	92	93	94	95	94	96	102	105
(8) Maschinen- und Fahrzeugbau	660	740	809	806	840	859	864	872	894	903	917	139	113
(9) Elektrotechnik, Elektronik, Gerätebau	288	316	364	369	404	421	423	429	429	432	424	147	117
(10) Leichtindustrie 1)	497	458	450	448	488	503	505	505	505	501	497	100	110
(11) Textilindustrie	329	279	249	244	257	249	245	244	240	237	234	71	94
(12) Lebensmittelindustrie	221	202	216	220	233	239	241	242	248	260	270	122	125
(13) Gesamte Industrie 2)	2702	2721	2798	2806	2955 4)	3011 4)	3026	3043	3071	3089	3103	115	111

(16) 1)Ohne Textilindustrie.-2)Ohne Wasserwirtschaft.-3)Zu konstanten Preisen von 1962; jährliche Veränderungen mit Hilfe eines hypothetischen - versteckte Preiseinflüsse berücksichtigenden - Investitionsgüterpreisindex deflationiert.-4)Merkliche Veränderungen durch die Eingliederung industriell produzierender Handwerksbetriebe in die volkseigene Industrie.

(17) Quelle: Manfred Melzer: Anlagevermögen, Produktion und Beschäftigung der Industrie im Gebiet der DDR von 1936 bis 1978 sowie Schätzung des künftigen Angebotspotentials. Beiträge zur Strukturforschung des DIW. Heft 59. Berlin 1980, Anhang, Tabelle 62.

/Key on following page/

Key:

1. Industrial sector
2. Development
3. Gross fixed assets (annual average in billion marks)
4. Energy and fuel industry
5. Chemical industry
6. Metallurgy
7. Building material industry
8. Machine and vehicle construction
9. Electrical engineering, electronics, device construction
10. Light industry
11. Textile industry
12. Essential and nonessential food industry
13. Industry total
14. Gross output (in billion marks)
15. Blue and white collar workers (excluding apprentices, in thousands)
16. 1) Excluding textile industry.-- 2) Excluding water supply.-- 3) At constant 1962 prices; annual changes deflationed with the aid of a hypothetical investment goods price index taken hidden price influences into account.-- 4) Noticeable changes by the incorporation of industrially produced crafts enterprises in state industry.
17. Source: Manfred Melzer, "Fixed Assets, Output and Employment of Industry in the Territory of the GDR, 1936-1978, and Estimates of the Future Supply Potential," BEITRAEGE ZUR STRUKTURFORSCHUNG DES DIW, No 59, Berlin 1980, supplement, table 62.

Table 2--Capital Productivity, Capital Intensity and Productivity in GDR Industry 1960-1978

(1) Industriebereich	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978	(2) Entwicklung 1960-78 1960=100	Entwicklung 1970-78 1970=100
(3) **Brutto-Kapitalproduktivität 3) (in Mark)**													
(4) Energie- u. Brennstoffindustrie	0,25	0,21	0,21	0,21	0,21	0,21	0,21	0,21	0,21	0,21	0,21	84	100
(5) Chemische Industrie	0,58	0,62	0,69	0,68	0,70	0,72	0,79	0,75	0,77	0,78	0,78	135	113
(6) Metallurgie	1,29	1,12	1,17	1,21	1,24	1,27	1,31	1,31	1,32	1,31	1,31	102	112
(7) Baumaterialienindustrie	0,49	0,46	0,51	0,51	0,51	0,50	0,53	0,55	0,55	0,55	0,54	110	106
(8) Maschinen- und Fahrzeugbau	1,41	1,34	1,48	1,47	1,51	1,52	1,54	1,54	1,56	1,57	1,58	112	107
(9) Elektrotechnik, Elektronik, Gerätebau	1,51	1,60	1,71	1,69	1,77	1,85	1,93	1,97	2,08	2,15	2,22	147	130
(10) Leichtindustrie 1)	1,29	1,23	1,39	1,40	1,50	1,52	1,53	1,53	1,54	1,52	1,51	117	109
(11) Textilindustrie	1,16	1,12	1,27	1,29	1,41	1,36	1,37	1,37	1,42	1,42	1,44	124	113
(12) Lebensmittelindustrie	2,20	2,22	2,19	2,20	2,27	2,27	2,29	2,31	2,28	2,22	2,18	99	99
(13) Gesamte Industrie 2)	0,95	0,90	0,97	0,98	1,01	1,03	1,05	1,05	1,07	1,07	1,07	113	110
(14) **Kapitalintensität 4) (in 1000 Mark)**													
(4) Energie- u. Brennstoffindustrie	112	160	225	224	230	234	240	253	264	271	281	250	124
(5) Chemische Industrie	56	74	94	100	103	107	114	121	127	132	137	243	145
(6) Metallurgie	47	64	81	82	86	89	92	95	98	103	107	225	132
(7) Baumaterialienindustrie	35	55	56	70	71	76	78	80	83	87	90	254	139
(8) Maschinen- und Fahrzeugbau	19	26	30	32	33	33	35	36	37	39	40	205	131
(9) Elektrotechnik, Elektronik, Gerätebau	13	18	22	24	24	25	26	27	28	29	31	238	138
(10) Leichtindustrie 1)	15	22	26	27	26	27	28	30	31	33	35	227	135
(11) Textilindustrie	19	26	32	34	33	35	38	40	41	43	45	238	140
(12) Lebensmittelindustrie	35	45	54	55	55	56	58	60	61	62	62	175	116
(13) Gesamte Industrie 2)	32	44	53	56	56	58	60	63	65	68	71	222	132
(15) **Brutto-Arbeitsproduktivität 5) (in 1000 Mark)**													
(4) Energie- u. Brennstoffindustrie	28	33	47	48	49	50	50	53	56	57	59	212	127
(5) Chemische Industrie	32	46	65	67	72	77	84	91	97	102	107	331	165
(6) Metallurgie	61	72	94	100	106	113	120	125	130	135	139	227	148
(7) Baumaterialienindustrie	17	25	33	36	36	38	41	44	46	48	48	283	148
(8) Maschinen- u. Fahrzeugbau	27	35	45	47	49	51	54	56	58	61	63	231	141
(9) Elektrotechnik, Elektronik, Gerätebau	19	28	38	41	42	45	50	53	58	62	68	352	179
(10) Leichtindustrie 1)	20	26	36	38	39	41	43	45	48	51	53	269	147
(11) Textilindustrie	22	29	41	43	46	48	52	54	58	61	65	295	158
(12) Lebensmittelindustrie	78	101	117	122	124	126	132	138	139	137	135	174	115
(13) Gesamte Industrie 2)	30	40	52	55	57	59	63	66	70	73	76	251	146

(16) 1) Ohne Textilindustrie.-2) Ohne Wasserwirtschaft.-3) Brutto-Produktion je 1 Mark Brutto-Anlagevermögen.-4) Brutto-Anlagevermögen je Arbeiter und Angestellten (ohne Lehrlinge).-5) Brutto-Produktion je Arbeiter und Angestellten (ohne Lehrlinge).

(17) Quelle: Manfred Melzer: Anlagevermögen, Produktion und Beschäftigung... A.a.O., Anhang, Tabelle 63.

Key:

1. Industrial sector
2. Development
3. Gross capital productivity (in marks)
4. Energy and fuel industry
5. Chemical industry
6. Metallurgy

/Key continued on following page/

7. Building material industry
8. Machine and vehicle construction
9. Electrical engineering, electronics, device construction
10. Light industry
11. Textile industry
12. Essential and nonessential food industry
13. Industry total
14. Capital intensity (in 1,000 marks)
15. Gross productivity (in 1,000 marks)
16. 1) Excluding textile industry.— 2) Excluding water supply.— 3) Gross output per Ml gross fixed assets.— 4) Gross fixed assets per blue and white collar worker (excluding apprentices).— 5) Gross output per blue and white collar worker (excluding apprentices).
17. Source: "Fixed Assets, Output and Employment..." as before, supplement, table 63.

FOOTNOTES

1. See Erich Honecker: "From the Politburo Report to the Eleventh Plenum of the SED Central Committee," NEUES DEUTSCHLAND, 14 December 1979, p 5.

2. See Joachim Kund: "Approaches to the More Rational Utilization of the Labor Capacity," ARBEIT UND ARBEITSRECHT, No 6/1980, p 245.

3. See Klaus Frank, Peter Glotz: "A Major Metallurgical Enterprise Successfully Fights Manpower Turnover," ARBEIT UND ARBEITSRECHT, No 6/1980, pp 249 ff.

4. See Eberhard Schulz: "Maintenance Resolutely Rationalized," DIE WIRTSCHAFT, No 15/1978, p 5.

5. See "The Management of Scientific-Technological Development in Enterprises and Combines (conference Report)," WIRTSCHAFTSWISSENSCHAFT, No 10/1978, p 1243.

6. See Kurt Matterne and Siegfried Tannhaeuser: "Die Grundmittelwirtschafts in der Sozialistischen Industri der DDR" [Basic Asset Management in the Socialist Industry of the GDR], East Berlin 1978, p 79.

7. See Second Scientific Conference on "Maintenance," WIRTSCHAFTSWISSENSCHAFT, No 7/1978, p 852.

8. See "On the Age Structure of GDR Industrial Fixed Assets," edited by Manfred Melzer, DIW WOCHENBERICHT No 37/1977, pp 321 ff.

9. In late 1978, for example, Guenter Mittag had to admit "that noticeable economic disruptions are caused when, as this year, investments worth billions are carried out outside the plan." He cited as the cause of this defect that often a small investment expenditure is applied for, which is gradually expanded once project implementation has begun. See Guenter Mittag: "Ninth SED Congress Resolutions Are Consistently Realized," NEUES DEUTSCHLAND, 27/28 May 1978, p 3.

10. See "Joint Decision by the Politburo of the SED Central Committee and the Council of Ministers on the Improvement of the Efficiency of Investments for the Further Strengthening of the GDR's Economic Capacity," NEUES DEUTSCHLAND, 10/11 November 1979, pp 3 f.

11. GDR economists point out instances "where skillful price control proved that up to 50 percent of the prices asked were unjustifiably high." See Kurt Matterne and Siegfried Tannhaeuser: "Basic Asset Management..." as before, p 220.

12. See Ursula Zschau and Willfried Hempel: "Approaches to More Efficient Basic Asset Reproduction," DIE WIRTSCHAFT, No 5/1978, p 3.

13. See Helmut Koziolek: "Intensification--An Essential Feature of the Economy in the Developed Socialist Society," EINHEIT, No 4/1977, pp 274 ff.

14. See H.J. Beyer and W. Packebusch: "Reflections on Job Reduction," DIE WIRTSCHAFT, No 2/1980, p 15.

15. See "Joint Directive by the Politburo of the SED Central Committee, the GDR Council of Ministers and the FDGB Federal Executive Board on the Drafting of the 1981 Plan," NEUES DEUTSCHLAND, 8 July 1980, p 3.

16. See Wolfgang Heinrichs: "Main Approaches to Raising Productivity for the Further Improvement of the People's Material and Cultural Standard of Living," WIRTSCHAFTSWISSENSCHAFT, No 8/1978, p 904.

17. See Helmut Koziolek: "Greater Refinement of Raw Materials," EINHEIT, No 6/1980, pp 589/590.

18. See "Order on Planning, Balancing and Delivery as Well as Reporting and Control of the Consumption of Liquid Energy Sources--Supply Order for Liquid Energy Sources," GBL DER DDR, Part I, No 19/1980, p 180.

19. See "Joint Directive..." as before, p 3.

20. See "Order No 2 on the Speed Limit for Commercial Vehicles to Achieve the Conservation of Motor Fuel," GBL DER DDR, Part I, No 22, 1980, pp 222 ff.

21. See Wolfgang Junker: "The Tasks of the Construction Industry Involved in the Resolute Implementation of the Ninth SED Congress Decisions and in Preparation of the 1981-1985 Five-Year Plan," NEUES DEUTSCHLAND, 20 June 1980, pp 3-5.

22. See Karl-Heinz Graupner/Walter Krzyzanowski: "Central Conference on 'Main Trends of the Organic Coupling of the Scientific-Technological Revolution with the Benefits of Socialism," WIRTSCHAFTSWISSENSCHAFT, No 2/1980, p 210.

23. See Angela Scherzinger: "On the Planning, Organization and Management of Research and Development in the GDR--Aspects of Scientific-Technological Progress," DIW SONDERHEFTE No 116, Berlin 1977, p 148.

24. See NEUES DEUTSCHLAND, 24 October 1979, p 3.

25. At least 25 percent of the energy and raw materials conservation planned for the 1981-1985 Five-Year Plan Period and capable of achievement by science and technology is to be accomplished by way of the use of microelectronics. See Ina Ladig: "Challenge Microelectronics," DIE WIRTSCHAFT, No 6/1980, p 5.

26. See NEUES DEUTSCHLAND, 26 August 1980, p 3.

27. See "Order on the Planning Order of the GDR National Economy 1976-1980," GBL DER DDR, Special issue No 775a, and "Order on the Skeleton Directive for the Annual Planning of Enterprises and Combines in Industry and Construction--Skeleton Directive," GBL DER DDR, Special issue No 780.

28. See Klaus Maetzig, Carla Neumann: "The Perfection of Planning and Economic Accounting in Socialist Industrial Enterprises," WIRTSCHAFTSWISSENSCHAFT, No 8/1975, pp 1238 f.

29. See collective of authors: "Leitungsorganisation in den Betrieben und Kombinaten" /Management Organization in Enterprises and Combines/, East Berlin 1976, p 368.

30. See Manfred Melzer and Angela Scherzinger: "GDR Economic System in Transformation? The Economic Leadership Tolerates More Discussion," VIERTELJAHRSHEFTE ZUR WIRTSCHAFTSFORSCHUNG DES DIW, No 4/1978, pp 379 ff.

31. See Manfred Melzer, Angela Scherzinger, Cord Schwartau: "Will the GDR's Economic System Become More Efficient by Increased Combine Establishment?", VIERTELJAHRSHEFTE ZUR WIRTSCHAFTSFORSCHUNG DES DIW, No 4/1979, pp 365 ff.

32. See Erich Honecker; "From the Politburo Report to the Eighth Planum of the SED Central Committee," NEUES DEUTSCHLAND, 25 May 1978, p 4.

33. See Guenter Mittag: "Using the Benefits of Socialism for Greater Efficiency," NEUES DEUTSCHLAND, 26/27 August 1978, p 3.

34. See Willy Hofmann: "Centralizationof Functions in the Combine," DIE WIRTSCHAFT, No 10/1979, p 3.

35. See Guenter Mittag: "Socialist Planned Economy for the Benefit of the People, the Strengthening of Our Republic," EINHEIT, No 9-10/1979, p 938.

36. See Karl-Heinz Arnold: "What is the Progress of the Combines?", BERLINER ZEITUNG, 15 May 1980.

37. These are: Electrical engineering/electronics, heavy machine and plant construction, chemical industry and light industry.

38. These are the ministries for glass and ceramics industry as well as for the construction of general machinery, agricultural machinery and vehicles.

39. See Manfred Melzer and Kurt Erdmann: "Problems of Combine Establishment in the GDR--Economic and Management Aspects," FS-ANALYSEN, No 8/1979, pp 39/40.

40. See "Decree on State Combines, Combine Units and State Enterprises," GBL DER DDR, Part I, No 38/1979, pp 355 ff.

41. See "Financing Directive for the State Economy," GBL DER DDR, Part I, No 28/1979, pp 253 ff.

42. See Eva Girlich, Chrstine Neuhaeuser: "Problems of the Centralization of Financial Resources and Funds in the Combines," WIRTSCHAFTSRECHT, No 1/1979, p 29.

43. See "Complex Reconstruction in the Enterprise," DIE WIRTSCHAFT, No 3/1979, p 14.

44. See Hans-Joachim Beyer, Hilmar Schmidt: "Improved Criteria for Performance Appraisal," DIE WIRTSCHAFT, No 3/1980, p 22.

45. See Gerhard Rahmel and Brigitte Voelkel: "The Plan Part Productivity and Manpower of the Combines and Enterprises of Industry and Construction 1981-1985," SOZIALISTISCHE ARBEITSWISSENSCHAFT, No 4/1980, pp 270 ff.

46. See "New Regulations for Plan Drafting," DIE WIRTSCHAFT, No 7/1980, p 6.

47. See "Orders No Pr 125-139," GBL DER DDR, Part I, No 22/1975, pp 369 ff.

48. See "Order No Pr 210 on Customer Sectors of Products and Services, for the Industrial Prices of Which New Regulations Take Effect on 1 January 1977," GBL DER DDR, Part I, No 18/1976, pp 264 ff.

49. See "Order No Pr 249 on the Scope of Price Index Cards for Planned Industrial Price Changes as of 1 January 1978," GBL DER DDR, Part I, No 14/1977, pp 153 f, as well as "Order No Pr 250 on the Classification in Customer Sectors of Orders Which Take Effect Within the Scope of Planned Industrial Price Changes," GBL DER DDR, Part I, No 14/1977, pp 154 ff.

50. See "Order No Pr 249/1 on the Scope of Price Index Cards for Planned Industrial Price Changes as of 1 January 1978" and "Order No 250/1 on the Classification in Customer Sectors of Orders Which Take Effect Within the Scope of Planned Industrial Price Changes," GBL DER DDR, Part I, No 15/1978, pp 182 ff. See also: "Order No Pr 211/1 on Prices of New Constructions," GBL DER DDR, Part I, No 34/1978, p 376.

51. See the series of various amended or complemented price orders published in: GBL DER DDR, Part I, No 15 and 16'1979, pp 120 ff and 131 ff. See also: "Order No 211/3 on Prices for New Constructions," GBL DER DDR, Part I, No 16/1979, p 136, and "Order No 211/2 Prices for New Constructions," GBL DER DDR Special Issue, No 995/1. Also see "Order No Pr 251/1 on Pricing of Assembly Services," and "Order No Pr 121/1 on Prices for Construction Planning Services," GBL DER GDR, Part I, No 19/1979, p 167. See also "Order No 212 on Prices of Building

Repairs," GBL DER DDR, Part I, No 19/1979, pp 162 ff. See also "Order No Pr 319 on Prices of Bitumen and Tar Mix Additives and Concrete," GBL DER DDR, Part I No 19/1979, pp 176 ff. Further see "Order No 3 on the Fixing of Industrial Prices for Investment Performance and the Export of Plant by General and Main Contractors," GBL DER DDR, Part I, No 19/1979, pp 165 ff, as well as "Order No Pr 205/2 on the Classification in Customer Sectors of Orders Taking Taking Effect Within the Scope of Planned Industrial Price Changes," GBL DER DDR, Part I, No 25/1979, pp 235 ff.

52. See A. Beyer, K. Erdmann, G. Lauterbach and M. Melzer: "GDR Price Problems," in "Analyses and Reports from Society and Science (condensed)," publisher: Institute for Society and Science, No 1/1970, pp 113 ff.

53. See Erich Honecker, "Resolutely Forward with the Further Implementation of the Eighth SED Congress Decisions," NEUES DEUTSCHLAND, 29 May 1973, p 6.

54. See GBL DER DDR, Part I No 46/1976, p 520.

55. See Gudrun Langdendorf: "The Material-Technical Base and the Operation of the Economic Laws in the Organization of the Developed Socialist Society in the GDR," WIRTSCHAFTSWISSENSCHAFT, No 12/1979, p 1416.

56. See Gudrun Langdendorf: "How Can We Further Strengthen the Material-Technical Base," NEUES DEUTSCHLAND, 12/13 April 1980, p 10.

57. See press release by the Schwedt Petrochemical Combine VEB on the occasion of the 1980 Leipzig Autumn Fair, p 2.

58. See Guenther Wyschofsky: "The CEMA Countries Cooperation in the Field of Chemical Industry Multiplies our Forces," CHEMISCHE TECHNIK, No 10/1979, p 495.

59. See NEUES DEUTSCHLAND, 20 June 1980, p 5.

60. Ibid, p 4.

61. See Jonny Haegebarth: "In-enterprise Construction of Rationalization Aids Provides Quick Rise in Efficiency," NEUER WEG, No 16/1980, pp 638 ff. See also K.H. Wilhelm: "In-enterprise Construction of Rationalization Aids at any Price?" DIE WIRTSCHAFT, No 6/1980, p 16.

62. The following annual average growth of productivity was achieved: 1960-1979: 5.2 percent, 1970-1979: 4.7 percent, 1975-1979: 4.4 percent.

63. See "Probable Population and Employment Trends in the GDR Through 1990," pre pared by Heinz Vortmann, DIW WOCHENBERICHT No 23/1976. This forecast was based on the 1973 birth rate. In the meantime the GDR has had a baby boom, and no slackening is in sight. The population figure for 1990 would therefore have to be amended to the assumption of 16.5 million instead of 16 million. That change does, not, however, affect the predicted 1990 figure of gainfully employed persons.

64. See "Directive by the Ninth SED Congress on the Development of the GDR Economy 1976-1980 (Draft)," NEUES DEUTSCHLAND, 15 January 1976, p 5.

65. See "Decision on the Preparation of the Revaluation of Basic Assets," GBL DER DDR, Part II/1962, pp 34-35, and "Decree on the Revaluation of Basic Assets," GBL DER DDR, Part II/1964, pp 118 ff.

66. See Manfred Melzer: "The Fixed Assets of Central German Industry 1955-1966," VIERTELJAHRSHEFTE ZUR WIRTSCHAFTSFORSCHUNG DER DIW, No 1/1968, pp 105 ff.

67. See C. Boltz, H. Frase, W. Siegert: "On Some Problems Involved in the Revaluation of Basic Assets and the Establishment of New Depreciation Rates," EINHEIT, No 8/1963, p 41.

68. See Hans Juergen Hurtig: "What Effect Did the Revaluation of Basic Assets Have?", DEUTSCHE FINANZWIRTSCHAFT, No 6/1964, p 5.

69. See Manfred Melzer: "Price P olicy and Price Fixing Problems in the GDR," VIERTELJAHRSHEFTE ZUR WIRTSCHAFTSFORSCHUNG DER DIW, No 4/1969, pp 316/317.

70. At price increases of 113 percent (total) in the period 1944-1962 the rise in costs of industrial investments ascertained for the GDR was well below that in the Federal Republic, where costs rose to 160 percent in the same period of time.

71. See Manfred Melzer: "Basic Assets, Production and Employment in Industry in the Territory of the GDR from 1936 to 1978 as well as Estimate of the Future Supply Potential," BEITRAEGE ZUR STRUKTURFORSCHUNG DES DIW, No 59, Berlin 1980.

72. These favorable growth rates are the consequence of the use of official gross output values, not adjusted by hidden price influences, by which the output volume is reported unduly high. Using net output values which must be based on hypotheses only, the growth of capital productivity would turn out to be negative.

73. The results of the past 3 years were lower still: 1977: + 0.5 percent, 1978: + 0.3 percent and 1979: + 0.4 percent.

74. It was possible to ascertain the rates of the regression function (and use them for this forecast) from the data of output, gross fixed assets and employment for the years 1965-1979 and the forward projected values for 1980 based on the 1980 plan. Though there is a correlation between output values and employment data, this is not linear--as shown in the calculated trend values of the regression rates. That is why regression analysis is applicable after all.

75. When based on a parabola as trend function, the annual increase in capital intensity (by comparison with the previous years) steadily declined from 4.0 percent (1970) to 2.4 percent (1990); using a potential function, growth declines from 3.7 percent (1970) to 2.1 percent (1990), and using a linear function annual growth drops from 4.0 percent (1970) to 2.2 percent (1990).

76. This corresponds to an annual rise in capital intensity of 4. percent to 5.5 percent.

77. In real terms the fixed assets of industry rose by an annual average of 5.3 percent 1960-1979; 4,8 percent 1970-1979; 4.5 percent 1975-1979. In recent years growth rates were lower yet: 1977: 4.2 percent, 1978 and 1979: 4.4 percent respectively; about 4 percent are to be expected for 1980.

78. Here we were able to use the price rate of the industrial price reform--1.15. That is the average price rise in industrial gross asset investments during the third stage of industrial price reform. (See Manfred Melzer: "Price Policy and Price Fixing Problems," as before, p 321.

79. To compute this amount the ascertained annual real additions to assets were converted to nominal values by way of the hypothetical price index for goods, continued beyond 1978; we thereby get a forward projection of nominal industrial assets from 1978 (M256 billion) through 1990. The addition of nominal absolute annual values of accruals yields the accumulated total increase in the assets of industry.

80. In 1978, calculated at 1975 prices, the investment volume of industry (including water supply but excluding major overhauls) amounted to M25.61 billion (See "Statistisches Taschenbuch der DDR 1980" /GDR Stastical Manual, 1980/, p 28). After deducting an estimated value for water supply and adding an estimated figure for general overhauls as well as converting to the 1962 price base, a value of about M22.1 billion is shown for industrial investments within the limits mentioned.

81. This model calculation assumes an annual 3 percent increase in investment goods prices--a dimension which corresponds to the average of the price index for investment goods used as a basis for the study of industrial gross fixed assets (See Manfred Melzer: "Fixed Assets, Output and Employment...," as before). If that assumption were to change to either a) a lower rate of price increases--2 percent per annum--or (b) a higher rate of increase--4 percent--, the following investment growth would be required to achieve real industrial assets of M371 billion by 1990 (at 1962 prices): Based on a nominal investment volume of M22.1 billion in 1978, the average annual growth rate of industrial investment in the case of a) would still have to amount to 6-7 percent, and in the case of b) to about 8.5-9.5 percent. As, however, inflation already occurs by way of price rises for imported capital goods, and domestic capital goods are more than ever subject to hidden price increases, variant b) is more likely than a). Therefore the annual investment growth needed to achieve the stipulated final 1990 assets would have to amount to at least 8 percent.

82. In this comparison we must, though, take into account that the actual growth rates of investment must be set somewhat lower when including major overhauls, because major overhauls have increased more slowly in the past than new investments.

83. The planned investment volume of the five-year plan is M242 billion at 1967 prices, excluding investment participations abroad at M234 billion.

84. See Guenter Mittag: "We Continue the Policy for the Welfare of the People by the Plan," NEUES DEUTSCHLAND, 22/23 December 1979, pp 5 f.

85. In 1979 its share amounted to one eighth (at M3.3 billion in M26.3 billion industrial investments, excluding water wupply).

86. See D. Berger, W. Marquart, W. Radecke: "Intensification of the Investment Processes of Industrial Plants," WIRTSCHAFTSWISSENSCHAFT, No 5/1980, pp 603 ff.

87. For 1979 and 1980 nominal growth rates of 2.5 and 2.4 percent respectively represented the basis; derived therefrom are absolute asset data of M228 billion (1979) and M237 billion (1980).

88. For 1979-1990 we would get a slightly lower growth rate of 3.3 percent.

89. Productivity may be expressed as the product of capital intensity and capital productivity:

$$\frac{\text{Production}}{\text{Employed}} = \frac{\text{Fixed Assets}}{\text{Employees}} \times \frac{\text{Output}}{\text{Fixed Assets}}$$

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MITTAG URGES COMBINES TO ECONOMIZE, RAISE PRODUCTION

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['Economy--Focus of Our Social Policy' feature article by Guenter Mittag, SED Politburo member and Central Committee secretary for economic affairs: "Combines in the Struggle for the Implementation of the Economic Strategy of the 10th SED Congress"]

> [Text] Through the economic strategy issued at the 10th party congress, our party has a cohesive conception that conforms to the criteria of the 1980's. Its purposeful implementation in industry and construction, transportation and communication demands of the combines that they fully exercise their economic responsibility. Which experiences have the progressive combines gained and how can they be used for tapping great performance reserves? Growing importance to the struggle for higher effectiveness in the future attaches to a still better theoretical and practical control of reproduction theory.

Our 10th party congress has made a great decision of importance today as well as tomorrow for our whole republic and for the life of each individual: the policy of the main task in its unity of economic and social policy will be continued through the 1980's. That is a decision of historic scope for the continued stable and successful development of socialism in the GDR. This also increases our political responsibility to buttressing this policy through high and increasing economic achievements, because precisely in this way the advantages of socialism for the life of the people become so persuasively apparent.

This high responsibility has been fully understood by those who attended the seminar the Central Committee held with the general directors of the combines and the central committee party organizers. It was confirmed in the joint letter to Comrade Erich Honecker, SED Central Committee General Secretary and chairman of the GDR State Council, which assumed important commitments culminating in surpassing the quotas of the 1981 economic plan by at least 3 full days of industrial commodity production, and this essentially without any extra material. It will add an additional M 3.5 billion in industrial commodity production to our economic achievements.

That conference of leading functionaries of the combines in industry, construction, transportation and communication also clearly demonstrated that we have the strength and potentials, the possibilities and, above all, the militant determination to continue our very successful course of increasing our performance for the benefit of the people and for strengthening peace.

The Social Dimension in Our Economic Tasks

With the implementation of the decisions of the 10th party congress we have entered a new phase of all our work to which the highest political standards apply. It is ever more obvious that solving economic problems is the central issue of the great class confrontation, of the struggle to further strengthen socialism, for the welfare of the people and for a secure peace. In this respect the GDR, as a cornerstone of peace and socialism in Central Europe, bears a particularly high responsibility. The 10th party congress has most strikingly given expression to the role our state plays as a stable factor of socialism to within and to the outside. That holds true for the course behind us, it is all the more true for the future.

We are certain of our victory. We gain this conviction mainly from the complete identity between our party policy and the CPSU policy, as presented to impressively and convincingly at the 26th party congress by CPSU Central Committee General Secretary Comrade Leonid Il'ich Brezhnev and at our 10th party congress, by Comrade Erich Honecker. Our party always starts from the proposition that the creative application of the experiences of the CPSU in socialist and communist construction is a basic condition for successful advances. We held to that in preparing our 10th party congress, and we shall continue to hold to it in implementing its resolutions.

The socialist competition prior to our 10th party congress, organized by the trade unions, turned into the largest social mass movement toward implementing our party policy which aims at the well-being of the people. And that initiative, unprecedented in the history of our republic, is continuing with stronger force now, after our 10th party congress. More and more people grow stronger in their realization that it is well worth to give one's best for strengthening the socialist GDR because that also is best for the people and for safeguarding our peace--as the election appeal of the National Council of the National Front put it. It is necessary properly to recognize this great moral factor of socialist competition as a powerful impetus for our social development in the future and to act accordingly. Qualitative changes have taken place here which raise at once new demands for all our management activity. The strong economic and political effectiveness of our competition was shown especially during our 10th party congress. The requirements for the 1981-1985 Five-Year Plan, issued by Comrade Erich Honecker on behalf of continuing the main task policy, were responded to through new and high commitments assumed by the Carl Zeiss Jena combines, The Walter Ulbricht Leuna Works, the Fritz Heckert machine tool combine, and the Schwedt Petrochemical Combine.

The 10th party congress drew up an impressive balance-sheet. Our party gave evidence to the whole world showing what political, economic, intellectual and cultural accomplishments a people is capable of if led by a Marxist-Leninist party, if such a party is engaged with all determination in a policy for the good of the people. It also shows the enormous power and inexhaustible vitality of Marxist-Leninist theory, on the basis of which it is possible convincingly to settle all questions of social development both today and in the future--and there is no other theory that can do so apart from scientific communism.

The course of the main task, of the unity of economic and social policy, expressing the consistent Marxist-Leninist, and that means the scientific, approach our party is taking is our policy fulcrum and pivot in shaping the developed socialist society in the GDR. This course, resolutely pursued by our party, has proven itself also under new and changed international, political and economic, conditions. On its basis those additional social impulses were released that were needed to maintain the continuity in our advances. We could and can tap important economic reserves because we always proceed from directing economic processes politically. That mainly means doing everything to make apparent to everyone what socialism can do and what good it can do for the people. Political leadership here means translating such insights into higher social activity and economic performance. The basic prerequisite for it that decides everything we do have--a clear, consistent party policy aimed at the well-being of the people.

Any responsible manager can clearly sense day after day how much assistance this policy provides particularly for the solution of ambitious tasks. Decisive for the outcome of economic activity on this basis is the ability of each manager to organize his collective in the best possible way, stake out clear targets, distribute capacities correctly, organize the work well, carry out regular controls, recognize fine achievements materially and morally and, not last, keep an open ear to all suggestions, ideas and recommendations from the working people.

So the party policy is implemented, through the people's confidently getting involved in life. That gives rise to those enormous impulses and achievements by which always again new and thus far unknown reserves can be tapped. Thus it is wrong to imagine these reserves could ever be exhausted. That does not conform with real conditions in socialist development. Rather, the growth of such reserves is a decisive basic feature in our society. The main source which makes our performance improvement reserves grow rather than diminish lies in our people's grown intellectual-moral potential. Essentially, any further advance in this field will now depend on how the objectively extant performance capacity and performance willingness of workers, male and female, of the researchers, engineers, chemists and the production organizers can be made socially effective through prudent management activity in such a way that we will meet the tasks of the 1980's--and meet them we shall.

A dynamic rate of economic growth, stability, full employment, the people's prosperity--all that is not only of economic weight but also of great political importance. Here the reality of socialist planning is also truly demonstrated as a vivid social process.

A Clear Strategic Concept

The preparation of the ten key points of our party's economic strategy, as presented before our 10th party congress by Comrade Erich Honecker, is among our party's important scientific-theoretical achievements for the 1980's. It provides our party with a cohesive conception for organizing our advances in the 1980's, based on the universally valid inevitabilities of socialism and the experiences of a policy tested throughout many years.

Basic elements of this strategy had become fully mature even at the time that we prepared our 10th party congress. They were explained by Comrade Erich Honecker at the 11th Central Committee plenum. But now a new quality has arisen. Through the all-inclusive formulation of the ten key points at the 10th party congress, an all-inclusive strategic and constructive path has been charted by way of solving and further extending our policy as aimed at the well-being of our people. In our economic strategy decisive developmental trends of our productive forces, such as microelectronics, robot technology, the modern materials economy and energy methods, are closely tied up with the fundamental conditions and requirements for shaping our economic reproduction process. The point of departure lies in the fact that an inseparable inherent connection exists that must resolutely be taken into account among all the main trends in the development of the productive forces, so as to insure a high rate of development all-around. Our economic strategy furthermore is based on the realization that the economic prerequisites for a rapid development of the modern productive forces in this process are created directly by improving our efficiency and raising our labor productivity. For that reason every concrete task in the development of the productive forces also shows up as a task in improving our efficiency. It means that for each and every measure, the outcome must be enhanced and the expenditures be reduced. An outstanding role in this is played by the refining of energy and raw material assets our economy has available.

Through using the qualitative growth factors, their focal point being our scientific-technical progress, a better use made of available resources is insured--as is typical of intensively expanded reproduction. This way we insure even under changed reproduction conditions a stable growth of the social end product for public supplies, the economy and export.

This economic strategy for the 1980's forms the basis for all our work. In all matters of the continued struggle for improving the efficiency in every combine and enterprise one thus ought to proceed from these ten key points and how they relate with each other. That applies to the practical work as much as to further qualifying and training the management functionaries. Everywhere the important thing is to focus the work on these new standards, which means changing them in terms of better quality.

(1) The Central Committee General Secretary charged the 10th party congress with the task to take another step toward combining the advantages of socialism with the achievements of the scientific-technical revolution. Science and technology have to guarantee the necessary lead time for an intensively expanded reproduction. Capacities have to be concentrated on new products and procedures that will cause profound economic effects. Social, economic benefit thus has to be the focal point in scientific requirements. It calls for deriving all scientific-technical targets from objectively ripened economic requirements. Scientific-technical work is no end in itself. First come the objectively social and economic needs of society that must be satisfied in the most economical way through high technological and quality production. Therein lies the basic connection between science and production, it being determined by social needs.

Whatever society spends for science and technology, ultimately it must be reproduced, a basic condition being that the economic result derived from science and technology has to be greater by multiples than the original investment. An essential criterion for all science and technology measures lies in saving working hours. Mainly through rationalization on a high technological level, the annual saving in working hours of 490 million in 1981 is to be raised to more than 600 million in 1985. Thus, in the truest sense of the word, we are concerned here with time economy to reduce the socially necessary investment of working time in production and curtail the production cycle and thus also the time it will take for the latest scientific-technical results to take effect.

(2) The 10th party congress assigned the task greatly to increase our labor productivity and to bring it onto a much higher level at a wide breadth, and Comrade Erich Honecker has theoretically worked out what the main factors in improving our labor productivity today are to us.

Cutting back jobs must make possible getting working people to do different work. Their high educational level must be made full economic use of. It is not just a matter of more of an output per working hour but also one of a higher value increase through constantly rising labor productivity. The question then is how the higher educational level of the specialists in the GDR can be used in such a way that a measurably higher increase in labor productivity and a better quality of output result. This touches on questions of proper labor organization, seeing to it that available skills are fully used, as well as of continuing vocational training and providing skills in novel technological processes, microelectronics, for example.

Science and its technological applicability counting among these main factors, the question then arises how scientific data can more purposefully be made effective toward improving our labor productivity, that is to say in particular, where and how new technologies can go into production.

And as the social combination of the production process is stressed explicitly as a main factor in raising our labor productivity, under prevailing conditions the question arises how by means of the already created form of the combines this social combination of the production process is organized and becomes effective in detail. This applies in particular to the everyday concrete organization of the production processes and to insuring a smooth "hand-in-hand labor" in all its sectors. A great need to catch up exists in this area.

(3) There is the task to make economically much better use of our raw materials and fuels. From each kilogram of raw material as many high-grade products have to be produced through skilled labor as are altogether feasible. Then we get to a higher level of refinement for our economic output.

A higher degree of refinement for the raw materials and other materials in production is the key issue for insuring a continuing rate of growth of our efficiency. In terms of our political economy that means adding a greater new value through skilled labor to every kilogram of raw materials used initially. The implementation of this requirement calls for: (a) bringing the production process up to the higher stages in every combine, not to stop with raw materials and semifinished products but actually get to the end products; (b) applying modern technologies and organizing quality production all through the combines as a unified process; (c) refining mainly domestic raw materials, which would yield the greatest benefits; and (d) refining is an economic problem concerning all branches, and each ministry shall elaborate a uniform conception on it.

Many regard refining merely as a matter of making a transition to a higher production stage. True though that is, one must not stop there. Refining simultaneously concerns the highest international standards in science and technology, the highest possible economic results, and not only new products but also the newest technologies and procedures and the reduction of production consumption. Only through this complexity can refining become effective in the GDR economy.

(4) The task was assigned to conduct the struggle for high-quality products in the sense of economic improvements. Quality work calls for placing it directly on the most progressive scientific-technical data. Quality, not last, is to have aesthetic design features. High aesthetic design in quality production is the basic means for enhancing, or for insuring altogether, the effects achieved through refining.

For the scientific-technical level of production and its increasing effectiveness, an important yardstick is a steady increase of the proportion of goods with the "Q" quality seal within the total production volume. Many combines have reached that kind of a production proportion in the first quarter of 1981. But there still are too few combines that have that kind of quality seal proportion to show for. Yet there is no justification for crass differences in quality levels. They never were justifiable and now, by the criteria of the 10th party congress, they certainly are no longer justifiable.

Improving qualities is the main road toward increasing efficiency. And more than that: the growth of production and of the national income largely depends on better qualities and the economic results derived from them.

(5) The centerpiece of the requirements of the 10th party congress for our economic strategy in the 1980's lies in significantly improving our labor efficiency. An ever better cost/benefit ratio must be accomplished. That concerns in particular our reducing our production consumption. Production must rise faster than our investment of embodied and live labor.

The tasks in years to come will be marked by that an unprecedented performance improvement will have to be insured by what, in principle, is an unchanged or only slightly increased volume of energy sources, raw materials and materials. Therein lies the core of the requirements for significantly lowering our production consumption. The minimum goal in the current five-year plan lies in reducing the specific consumption of economically important energy sources, raw materials and working materials by an annual average between 5 and 5.5 percent. Our dynamic rate of economic growth has to be insured by means of a growth in primary energy of less than one percent per year.

Our strategy on decisively improving our labor efficiency is based on the goal of reducing by 15 percent until 1985 the social expenditures for handling the reproduction process in industry, construction and transportation. Highly important here is the task to reduce basic material costs per M 100 of commodity production from M 49.78 in 1980 to M 43.38 by 1985. That corresponds to an average annual reduction of this crucial production consumption factor of 2.7 percent. Our party has added the task of reducing prime costs by from 2.3 to 3 percent over the average of the years up to 1985.

(6) Comrade Erich Honecker made a special point at the 10th party congress of the task of comprehensive socialist rationalization. Socialist rationalization in this decade is tied ever more closely to automation. Rationalization is to save working time, enhance the quality of labor and improve the working people's working conditions. The technological level is to be raised in a fundamental manner. The change is to be brought about primarily through a broad application of microelectronics, automated processes and the introduction of industrial robots.

Implementing those tasks requires our understanding the requirements for socialist rationalization after the 10th party congress. What does this involve?

(a) Socialist rationalization at a larger dimension. While during the 1976-1980 five-year plan, 1,664 million working hours were saved, it will have to come to 2,854 million between 1981 and 1985. Those are minimum goals.

(b) The emphasis in socialist rationalization must clearly be placed on the reduction of jobs. Thereby, each combine itself has to create the prerequisites for its expanded reproduction, as exemplified by the Schwedt initiative.

(c) Rationalization turns more and more toward automation so that jobs can be cut back at decisive magnitudes and work be made easier all around. The main means for it comes through the production and use of industrial robots.

For solving these tasks which are so crucial for the GDR economy, the 10th party congress set high targets for the production and introduction of industrial robots. The main issue at present is to organize the use of from 40,000 to 45,000 industrial robots in terms of priorities for 1982 and 1983. In that case the requisite effects in boosting labor productivity will make themselves felt still during the current five-year plan. What matters at this time is to create robot technology principally by in-house construction of means of rationalization and to lend a new quality to it thereby generally in that we consistently concentrate on the introduction of truly most up-to-date technology.

That includes setting up simultaneously groups for applying microelectronics as has been done, for example, at the Carl Zeiss Jena Combine. But it also includes in-house machine tool construction and preparations for the application of electronic circuits and in other fields. And for that one needs personnel. A great reserve is to be found here especially among youth.

(7) Our economic strategy for the 1980's sets new measures for our investment policy. Means are concentrated on socialist rationalization, and valuable scientific insights must be put into effect rapidly. The first consideration is to put progressive technologies into operation which are most highly economical.

The investments are in this sense the motor for boosting the effectiveness of the productive forces through the materialization of the most up-to-date scientific-technical data. To that end it is above all necessary to combine investment activity with R&D in such a way that the systematic introduction of new products, procedures and technologies that conform with highest scientific-technical standards and are of crucial importance for creating a highly effective structure is absolutely ensured. "First and foremost, we must implement progressive technologies that save working hours and material and, indeed, boost the effectiveness of whole economic areas,"[1] as is obviously the case, for example, in the application of microelectronics. It means principal attention is given to technological progress ensuring greatest economy, to be made to prevail by means of investments.

"Investments are measured by the economic effectiveness."[2] On that, the Central Committee report to the 10th party congress observes that in the last five-year plan M 1,000 invested yielded an annual commodity production in the amount of M 630. In this five-year plan period it is to go up to at least M 755. That goal can only be reached if investment efforts are reduced at least by 15 percent up to 1985 and the production periods are shortened by one third to one half. The Central Committee report set the social standard for it: The period from project planning to operations generally must not exceed 2 years--except for some investment projects in the basic materials industry. That requires raising the efficiency and mainly the effectiveness of project planning, to insure much better investment preparation. At least equally important is greatly to reduce the construction portion of the investments. In 1980, it came to 30.2 percent in industry. By 1985, it is to be reduced to at least 25 percent. That calls for the development of new, expenditure-reducing construction engineering and constructive solutions, the mandatory application of best designs, a greater share of reuse and promotional projects, and a constant updating of construction time-frame standards. The main thing is to get a better handle on the requirements for renewal, modernization and reconstruction in the building industry.

(8) The 10th party congress posed the task to produce far more and better consumer goods, mainly on the basis of domestic raw materials. Good design calls for far greater attention. To get a higher grade of commodities, modern production technology, tradition and crafts ought to be more effectively combined. Consumer goods production is of concern to our entire economy.

To a much larger degree than heretofore scientific-technical progress has to bring in newly and further developed products which with their intrinsic value parameters, costs, working life, reliability and designs help set progressive international standards. A decisive basis for that lies in new scientific-technical data from basic and applied research. That holds true in particular for microelectronics, the results of which we must make effective much faster than we have done via a broad palette of high-grade public consumer commodities. That is both a political and an economic issue. Together with reducing energy and material expenditures, the use of scientific-technical progress also pertains to such ambitious objectives as novel construction and design solutions, new production principles, the reduction of end product expenditures, the improvement of the input/output ratio, the simplification of service operations and good design features. That makes it necessary to direct all efforts at these goals--from research all the way to a branch-specific construction of means of rationalization.

Proceeding from their particular production conditions, the combines and enterprises which principally manufacture means of production also have the task to broaden their palette of high-grade consumer goods. Here we have to endorse views by general directors of combines producing means of production to the effect that the grade and quality of the consumer goods have to conform to the good brand names of their means of production.

The issue of consumer goods production is a matter of the party organizations' struggle for the implementation of the resolutions, of the management activity by the general director, of trade union initiative, and of that of the FDJ--in short, of our joint responsibility for the further implementation of the main task in line with the 10th party congress resolutions.

(9) The task was posed to ensure high dynamics for social production and the national income. Anything extra to be distributed must first be produced. Growth is still more consistently to be obtained by means of the qualitative factors. That once again clearly underscored our party's policy position on economic growth in our socialist society. We always let ourselves be guided by the basic orientation in our party program "that the gradual improvement in all working people's standard of living requires high achievements in socialist production and a stable rate of economic growth."[3]

In this future-directed basic orientation we always keep in mind that a crucial source of our strength lies in the close intertwining between the GDR and the USSR economies. There is no other example for it in terms of its scope, depth, variety and socioeconomic premises as well as in terms of its range and quality. The further development of this close economic cooperation which is so extremely beneficial for the economies of both the GDR and the USSR is governed and determined by the purposeful implementation of the GDR-USSR specialization and cooperation program up to 1990. That is more than merely economic cooperation in the narrow sense of the word. It is an organized and vital cooperation among communists and millions of working people for our common goals on the basis of the ideas of Marxism-Leninism that already have assumed their proper shape in our countries.

However much capitalist countries may be shaken up by their crisis and vie with each other in pessimistic utterances about their economic future, and however much they may be talking there about production decline and the shrinking of their standard of living, we look to the future with optimism. We shall also meet the ambitious goals of our new five-year plan--an increasing national income and industrial commodity production to from 128 to 130 percent. This is so because our party reacted in good time to new requirements, analyzed them thoroughly in concert with the working people, and drew far-reaching inferences from them which were then accepted into the appropriate resolutions on the acceleration of our scientific-technical progress, on the rational and circumspect utilization of our available and developing potential, and on the perfecting of management and planning.

(10) Finally, our party's economic strategy for the 1980's considers that the shaping of the developed socialist society, and mainly its material-technical base, is inseparable from an intensive course toward higher economic achievement. In our further production intensification we must proceed still more resolutely and

leave no area untouched. Management, planning and stimulation, every step in shaping our production conditions, and every project in the combines must conform with this principal trend of our economic growth as much as the further development in our territories. For coping with all these matters we must speed matters up.

No doubt, ensuring expanded reproduction as the material basis for the continued shaping of the developed socialist society in the GDR is of crucial importance. There is an inseparable connection between reinforcing the workers and farmers power, ensuring expanded reproduction and thus the growth and continuation of the policy that aims at the well-being of the people.

Growing Importance of the Marxist-Leninist Reproduction Theory

Meeting these requirements calls for the realization that in the future a theoretical and practical mastery of the Marxist-Leninist reproduction theory on behalf of our struggle for boosting production efficiency by way of intensification will gain still greater importance than it had in the past. The whole wealth of ideas by Marx, Engels and Lenin must be mined to that end.

Under prevailing and future conditions, expanded reproduction can be guaranteed only if all factors of its intensive organization are fully put into effect. Among the questions that play an increasingly greater role here are that of rendering the extant people's wealth effective, that of making economical use of science and technology as an expansion potential which--as Marx put it--is independent of the given magnitude of operating capital, and that of accelerating the reproduction cycle.

The basic issue in intensively expanded reproduction is to extract through creative labor based on science and technology a constantly increasing economic effect making for further growth from the constantly larger funds available. Thus it is a one-sided way of looking at it when there is no other aspect but that in consequence of greater basic assets year after year more must be accumulated. Of course, accumulation must grow, but what comes to the fore ever more is that together with increasing the absolute accumulation volume that which is there and the funds that are to be accumulated have to be made more effective.

The theoretical realization of Marx plays a role in this context to the effect that, actually, even simple reproduction embraces elements of expanded reproduction,[4] simple reproduction never merely being a preservation of what there is but it always also implies a higher effectiveness of available funds. This then is a matter of enhancing the degree of effectiveness in the means of production employed, the tools of labor and the instruments of production. Therein lies the core of intensification.

About this Marx expressed some extremely important thoughts, especially in the third volume of "Das Kapital" under the heading of the "economy of constant capital." Their exploration led to the conclusion to make economically effective in a very different way from the way it was done the utilization of what was available, that which had already been produced by man, that is. Marx brings out that the extant volume of embodied labor--which is not exactly small in the GDR and is growing year after year--constitutes its own economic potential to the extent that it is ever more completely put to use. As the chief factors in the "economy of constant capital" that are of importance to us, the following can be derived from the ideas Marx expounded:

--The economy of what is available is all the greater, the more labor is organized as socially combined labor. Marx speaks of the "economy stemming from the concentration of the means of production and their massive application."[5] Costs for instruments of production do not grow at the same rate as their efficiency. Moreover, the concentration of the means of production obviates the need for all sorts of structures.

--As the second large branch in the economy of the production conditions Marx refers to the "recycling of the excrements of production, its so-called waste products, into new production elements." Here again the principal premise is an "appropriate mass volume of such waste products turning them back again into commercial commodities and thus into new elements of production."[6] All that diminishes raw material costs. In that context Marx says: "Raw material price increases naturally form the impulse for using waste products."[7]

--A third chief factor is the constant improvement of the machinery itself. That holds true for the production of machinery becoming cheaper as well as for the special improvements permitting already available machinery to operate more economically.[8]

--As another important factor Marx refers to the "economy through inventions." By that he mainly means the use derived from the application of extant inventions in breadth.[9]

Of the greatest importance is the acceleration of the reproduction cycle, i.e., the shortening of all its phases and securing smooth transitions among the sectors of the reproduction process. That can yield a great deal of extra reserves because--as far as the time sequences are concerned--funds used become more effective. If, for example, the time needed for producing something is reduced from 30 to 28 days, it is possible to get an extra monthly production per year while keeping basic assets and labor constant.

We also must get a better theoretical and practical handle on the process of value formation as the basis for generating national income and must make conscious use of that for the sake of becoming highly economical. We should give deeper thought, for example, to the remark by Marx that live labor not only creates new value but also preserves the value of past labor. The precondition for that, however, is the "quality of additional labor." It greatly decides whether all the social product created in the preliminary stages is or is not preserved as a value for society. This context acquires the greatest economic weight with regard to product refinement.[10]

Another important basic theoretical statement on the value formation process which simultaneously explains the need for and advantages of refining lies in the explanation Marx has given of simple and complicated labor. "Complicated labor rates only as simple labor raised to a higher power or, rather, as simple labor multiplied, so that a smaller quantum of complicated labor equals a larger quantum of simple labor."[11] The better the quality of labor employed then, the more it becomes possible to create a larger social product using the same or a smaller number of employees. That also enhances the grade of labor and, through a higher degree of refinement, the social labor productivity and the national income. It furthermore follows from it that the higher the degree of refinement is, the greater become the demands placed for quality work on each individual.

Factually, the quality of labor in the last hour of production controls the success of the economic utilization of all the labor invested in it. That, among other things, also, and especially, underscores the importance of industrial design features which to a large extent decide the salability and the price obtained in selling a manufactured product. This is not, as is sometimes assumed mistakenly, an additional production expense, but it rather is a matter that here the premises are laid altogether for cashing in on the overall value of production.

A higher growth in national income also can come our way through the practical application of the following realization: "Labor through exceptional productive force has the effect of labor raised to a higher power or it creates, over identical time frames, higher values than average social labor of the same kind."[12] That means to say, only that boost of labor productivity is economically effective in a special way that exceeds the average social effort. Then it is, it is to say, that simple labor has the effect of labor raised to a higher power and a greater value increase can be realized. That is why we must not merely measure the growth rates in labor productivity but must compare the levels of labor productivity and organize our struggle on that basis. That also is part of the struggle for top scientific-technical standards. Decisive to it is applied technology--not merely in its technical but also in its economic parameters. In general it must be said that for the GDR economy in the period ahead obtaining an above-average level of labor productivity internationally in important areas will largely decide how our national income develops.

Creatively combining this theoretical wealth of Marxism-Leninism means fully mobilizing scientific management for the shaping of the developed socialist society.

The High Economic Responsibility of the Combines

What matters now is that each combine fully assumes its economic responsibility as a practical mission. Then alone can the strength of the combines be fully mobilized. This responsibility consists in that each combine

--develops its intellectual and material potential in such a way that a steady performance increase becomes possible year after year;
--creates by itself the economic prerequisites for an intensively expanded reproduction by producing the means for it through the use of the qualitative growth factors, especially of science and technology;
--closes the reproduction cycle within in that science and technology, rational production and sales of products, including the foreign trade activity, are organically combined with each other;
--brings its production process up systematically to the higher levels of refinement;
--provides the economy with high-grade consumer goods in attractive designs;
--organizes its export production toward high foreign exchange lucrativeness; and
--develops and furnishes its in-house construction of means of rationalization at a high technological level by use of microelectronics.

As practice has shown, the party organizations in the combines bear a particular responsibility for the further increase in the capacity of the combines toward the implementation of the 10th party congress resolutions. The steady elevation of the party's leadership role in all spheres of society is the most important condition for new victories. After all, our own way of development has proven a thousand times that it is mainly the party's leading role which makes sure that the creativeness of the working people is shown a path and a goal. All that calls for a high level of party work. What turns out to be crucial in this always is that we understand how to make the communists carry the word of the party into the masses, prove themselves at the focal points of events, are informed about the moods and opinions of the people and support anything that gets us ahead.

The party organizations therefore will also in the future be the firm and sure guarantee for seeing the 10th party congress resolutions fulfilled point by point.

FOOTNOTES

1. Comrade Erich Honecker, "Bericht des Zentralkomitees der Sozialistischen Einheitspartei Deutschlands an den X. Parteitag der SED" (SED Central Committee Report to the 10th SED Congress), Dietz publishing house, Berlin, 1981, p 57.

2. Ibid., p 58.

3. "Programm der Sozialistischen Einheitspartei Deutschlands," Dietz publishing house, Berlin, 1976, pp 22-23.

4. Cf. Karl Marx, "Das Kapital," Vol II, "Werke" (Works), Vol 24, Dietz publishing house, Berlin, 1963, p 394.

5. Ibid., Vol III, "Werke," Vol 25, Dietz publishing house, Berlin, 1964, p 89.

6. Ibid., pp 89-90.

7. Ibid., p 111.

8. Ibid., p 91.

9. Ibid., pp 113-114.

10. Ibid., Vol I, "Werke," Vol 23, Dietz publishing house, Berlin, 1962, pp 216, 221.

11. Ibid., p 59.

12. Ibid., p 337.

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GERMAN DEMOCRATIC REPUBLIC

COMBINE DIRECTORS, PARTY ORGANIZERS DISCUSS ECONOMIC STRATEGY

East Berlin EINHEIT in German Vol 36 No 6, Jun 81 signed to press 13 May 81 pp 543-547

['Economy--Focus of Our Social Policy' feature article by Prof Dr Gerhard Friedrich, deputy director, Central Institute for Economic Management, SED Central Committee; member, GDR Academy of Sciences; chairman, Council for Economic Management Problems; and Prof Dr Willi Land, secretary, Central Institute for Economic Management, SED CC: "Experience Exchange and Performance Comparison"]

[Text] The SED Central Committee sponsored a seminar with the general directors of the centrally managed combines and the central committee party organizers in Leipzig from 27 to 30 April 1981. Its goal and purpose was a thorough study and analysis of the central committee report to the 10th party congress submitted by Comrade Erich Honecker, the general secretary of our party's Central Committee.

General directors and party organizers reported how, on the basis of the broad response to the party resolutions, the work collectives were organizing the fulfillment and overfulfillment of the 1981 plan tasks by heeding the competition appeals from the Carl Zeiss Jena Combine, the Fritz Heckert machine tool combine in Karl-Marx-Stadt, the Walter Ulbricht Leuna Works Combine, and the Schwedt Petrochemical Combine. The commitments of the collectives in all industrial combines to exceeding the industrial commodity output announced in the 1981 national economic plan by at least three daily loads, and this essentially without any extra material, crystallized in a letter from the general directors and party organizers to Comrade Erich Honecker, general secretary of the Central Committee. In it, they unanimously express their firm determination to do everything for implementing the 10th party congress resolutions and carry out the party's economic policy strategy with new ideas and deeds.

The focal point of the whole seminar was placed on the implementation of the ten key points in the party's economic strategy presented by Comrade Erich Honecker at the 10th party congress. Performance comparisons and much experience exchange have disclosed further reserves for increasing our performance and presented ways through which the combines address the new conditions for our struggle in the 1980's. It indicated that many combines have made systematic use of the experiences conveyed in Gera in 1980 in the management and planning of their reproduction process. The level of the cadres and their ability to organize the work of their collectives in line with the new and greater tasks have grown; important advances have been made in the development, production and application of microelectronics, robot technology and other modern technologies. Many new experiences and insights were gained about how these advances have been organized and how on that basis the new and greater tasks are being dealt with, above all, by visiting the Carl Zeiss Jena combines, the Walter Ulbricht Leuna Works, the Herbert Warnke transformer plant in Erfurt, the Fritz Heckert machine tool combine in Karl-Marx-Stadt, the Wilhelm Pieck Combine in Mansfeld, the Dresden Robotron Combine and the Leipzig-Grimma chemical plant construction combine. The whole discussion brought out clearly how especially through science and technology and a broad mass initiative new efficiency reserves can be tapped in the combines.

The central effort of the experience exchange was taken up by the following matters:

--How must one organize the struggle for economically useable top accomplishments of science and technology in the combines? How should scientific-technical progress generally be integrated in the combines' overall reproduction process to make a more rapid and essentially broader use of scientific-technical data and thereby achieve great and stable economic effects?

This, for example, was brought out by means of experiences in the Carl Zeiss Jena Combine: A resolute focus on a comprehensive implementation and great economic application of science and technology data essentially is based on purposeful long-term conceptual work. The goals for such conceptual work to insure a long-range stable and dynamic development in the combine are derived from ambitious economic requirements and criteria. No one but the general director himself can direct such conceptual work. That also means that clear rules exist in the combine on the responsibility and involvement of the various management areas and levels in the overall scientific-technical and economic strategy and that those rules work.

--How is a far higher level of labor productivity achieved at a broad range? How are science and technology and their technological application brought to bear on it more effectively?

It was shown, among other things, that an important basis for performance development is found in the rational use of public labor capacity. In the Wilhelm Pieck Combine in Mansfeld, for instance, results were achieved through scientific labor organization concepts that are being worked out for any given five-year plan period and refined annually. There are two ways to do this: for one thing, many volunteer scientific labor organization collectives are used in the specialized departments in which appropriately trained working people take part; and then, complex scientific labor organization surveys are conducted aimed, not only, at releasing manpower but also at detecting and implementing performance improvements that are possible in the combine. On personal orders from the general director, three to four complex surveys are annually conducted in enterprises or entire production processes, their results then being argued before the general director.

A "complex program for a more efficient use of the public labor capacity until 1985" is working well in the Robotron Combine. It is based on a thorough analysis of the labor capacity available and of its use and indicates labor expenditures for production up to 1985. Concrete tasks are derived from it for scientific-technical work, for economic, management and process organization, for needed changes in the manpower structure, for developing qualitative factors in the manpower capacity, and for enforcing the socialist performance principle. Model solutions for the necessary development of the manpower structure in the combine enterprises have been beneficial. They are purposefullly working on making better use of the growing labor capacity and on reducing the proportion of low-requirement activities.

--How does one insure a higher degree of refinement in production?

The seminars discussed the basic requirements resulting from it for management and planning:

---Refining must resolutely be done by way of intensification, which means that better use must be made of available plants through intensification, socialist rationalization and reconstruction to that end.

---It is important to pay the strictest attention, level after level, to an economically efficient use of raw materials and working materials; step by step one must thoroughly account for costs and benefits and coordinate them with the cooperation partners.

---A higher degree of refinement often--especially by means of microelectronics and robot technology--brings important cost reductions and usually leads to a better end product.

The Robotron Combine is working on converting from separate and specific solutions to fully automating production sectors. To create what will essentially be closed technological assemblies for making components and equipment, automated systems are being readied for making mounted conductor plates, electronic components and other processing sectors that are to be handled on priority bases by the combine enterprises in the years ahead. As a basis for a proper automated streamlining of parts and components, technological documentation has since 1978 be handled and controlled as part of the requirement notebooks and conversion documents.

An essential criterion for the refining of working materials used in the Herbert Warnke conversion technology combine is the increased lucrativeness of exports. Particularly by a better scientific-technical level of the products and through the use of microelectronics and automation equipment the effort is being made to get an optimum economic use, through export, out of the least possible national investment of material, working hours and costs. Designers are directed to letting themselves be guided, essentially, in their work by economic requirements such as posed by the international markets. An economic benefit through science and technology is recognized in the combine only when it can be demonstrated by changes in the primary documentation (basic ration cards in the production plans, design specifications and so forth).

The chemical plant construction combine is engaged, in a concentrated and priority-oriented manner, in using microelectronics and robot technology. A microelectronic application guidance center is being set up in the combine as a central R&D and coordination organ for the area of the chemical industry ministry which also handles the coordination, direction and management in the use of industrial robots and sets up models in chemistry.

--What is the struggle like for ensuring high-grade production?

This economic requirement for all combines was discussed in close combination with scientific-technical work, a higher degree of refinement, a greater foreign exchange revenue through export and fully supplying the population with consumer goods. It is a matter of improving qualities on all levels up to the end products. This context provided the participants with many suggestions for enforcing at a greater breadth the struggle for the title "excellent quality enterprise" and boosting the importance of the requirements notebooks for quality projects.

--How does ore greatly raise labor efficiency and reduce production consumption?

Some general directors explained the important position they grant in their management activity to the struggle for reducing prime costs and the fine means and methods developed in cost accounting. In particular they are working on long-term concepts for reducing costs and are providing the collectives with concrete assignments along those lines for the different years. At the same time they are doing updated standardization work and are providing monthly estimates on cost trends, and accurate accounting and controls. A struggle to reduce costs, furthermore, also means that managers assume the personal responsibility for abiding by cost allocations, volunteer cost auditors are at work, and conformity is ensured between financial and material planning, production continuity and sales. On that basis clear targets also are assigned for reducing the costs in socialist competition.

In the discussion on reducing production consumption much was made of the problems of the materials and energy economy, which were dealt with primarily in connection with the acceleration of scientific-technical progress. The Walter Ulbricht Leuna Works Combine, for instance, does exemplary energy economy work. It relies on extensively involving the working people and on strict management, planning, controls and accounting for all energy economy tasks. Especially their insisting on high demands placed on R&D and on readying new energy installations has been well worth it. Purposeful work in accordance with ambitious standards and coefficients is a firm element of the competition. The combine carries out complex replacement, repair, rationalization and intensification measures in extant old installations while production is ongoing with the aim of making a much better use economically of available raw materials and fuels. Of special important in this regard is an improved production process organization in reconstructed plants.

--How to ensure comprehensive socialist rationalization. Is investment activity based on the new criteria?

Essential prerequisites for elevating the technical-economic production level must be created in each combine itself. Many general directors referred to the connection between the efficiency of their construction of the means of rationalization and the higher rate of production and efficiency achieved in their combine. What matters now is to orient the construction of means of rationalization in each combine to the qualitatively higher level in the development and application of modern automated equipment. That also is the way to move ahead the operation of more robots to 1982 and 1983, so that they will make a difference, economically, still during the current five-year plan period.

Regarding the use of robots the point was made several times that optimum results are achieved where it is possible to link up several robots and machines. The Fortschritt farm machinery combine in Neustadt reported on a new system, ready to be patented, for coupling robots. Other combines also presented interesting examples, such as an optimum solution in the chemical plant construction combine.

By taking on the design of tested robots, they accelerated operational readiness there. By means of centralizing robot production and the application and production and supplying of software for the whole field of chemical industry and by making use of capacities of the chemical combines it has become possible to produce up to 1985 more than 1,000 robots in the chemical plant construction combine and put them into operation in the chemical industry. At the same time a debate had to be carried on about the fact that in some combines greater efforts are still needed to meet the requisite criteria for the release of manpower anticipated in connection with the use of robots. There was unanimous agreement in the discussions that the ways of small rationalization still practiced often today are in no way any longer adequate to meeting the requirements of the 1980's. More and more of a central need is there to rationalize whole production sectors, as is being done in the heavy machinery and plant construction combines, and to combine with these fundamentally changed technological conditions of whole production sectors the use of robots that have to be financed out of the means of rationalization as such.

Good experiences in an efficient use of investments were taught by the example of the Herbert Warnke conversion technology combine. Thus far not only each project there met its deadlines, but attention also was paid to getting a great economic benefit--relative to the utilization of every monetary unit of investments in equipment. In the Wilhelm Pieck Combine in Mansfeld purposefully conducted complex rationalization solutions permit a considerable production growth while metal supplies have increased but slightly. Such solutions mainly rely on the introduction of novel technologies (strip casting process, the integrated copper-wire-casting-rolling method and so forth), the saving always of one or more production stages, and the reduction of specific energy and material consumption. A crucial material-technical condition comes from the systematic development over more than 10 years of efficient in-house capacities in the construction of means of rationalization and in the building industry. In the Fritz Heckert machine tool combine, combine enterprises provided out of their own reserves decisive potentials for technological R&D. Technological testing departments, for instance, fields of experimentation for technologists and innovators, have been found useful. Technological centers, for "milling," for instance, were decided to be set up by the SED bezirk management in Karl-Marx-Stadt. Models were developed for constructing one's own means of rationalization, for highly efficient technological units (through the use of robot technology), and for novel solutions for organizing the work of technologists. For every developmental project they are setting down systematically how many patents are generated and are to be used in the R&D process. Every R&D project must lead to new machine components, functions and procedures that are worthy to be patented and promote their salability on the world market.

--How do we produce far more and better consumer goods?

It became clear that much greater efforts are called for, in conformity with the criteria set by the 10th party congress, in the combines producing consumer goods as well as in those that principally manufacture means of production, to satisfy public demands for high-grade consumer goods, especially, and to make our consumer goods export more efficient. Greater efforts must especially be expected of the combines that produce means of production so that they will fully meet their economic responsibility. It became evident that in many cases consumer goods are still being produced in disregard of the actual technological structure of a combine or enterprise. If one wants to build up a stable line of consumer goods, however, a commensurate potential of R&D must be made available for it too. A point should be made, for instance, of the consumer goods R&D effort in the Robotron Combine concentrated in the Radeberg plant while the production itself is being organized by way of a division of labor in various enterprises of the combine. The telecommunications electronics combine makes consumer goods while coordinating with the radio and television technology combine that meet with the capabilities of the personnel and the technological equipment in the combine. The electrical machine construction combine likewise has concentrated on the kind of consumer goods production that goes together with the combine's main-line production. In many cases it has been found suitable to set up in the combines that manufacture means of production integral production units for such consumer goods. But efforts also are gaining in importance to reorganize smaller enterprises for the production of consumer goods where previously other combine enterprises kept a hand in their production.

--How can one still more effectively integrate our foreign trade activities with the streamlined management and planning of the combine's reproduction process?

Many fine examples were adduced in the discussion showing how well we have done in involving the foreign trade enterprises in the combines and their twofold lines of accountability.

There is something attractive about the clear integration of the whole sales strategy and, especially, the foreign trade activity within combine management in the Carl Zeiss Jena Combine. They constantly test their own ideas and results against world standards and check the world market and competition conditions. Above all they aim their entire management activity at controlling the reproduction cycle in its unity of R&D, production, sales and economic utilization.

It also was brought out that especially in the field of machine construction greater efforts are still needed to boost the export of installations. That calls for skilled advertising, ensuring the project planning achievements needed for it, intensive market research and, above all, close cooperation among all the combines and enterprises involved.

--How can through performance comparisons within the combine level differences and differences in the development of efficiency be surmounted and reserves be effectively applied to performance growth?

The experience exchange in Leipzig, which itself was conducted on the basis of accurate and detailed performance comparisons, by that token alone became a guideline for action for all the combines. Above and beyond that, all events there paid proper attention to and furnished sound experiences on how performance comparisons should be made. For example by the chemical plant construction combine, where it was possible to reduce significant differences in levels and in the development of achievement and productivity within the combine. Numerous measures were explained with regard to it, including

---consistently focusing on genuine scientific-technical top achievements; the most complicated demands of the world market and the best achievements by the competition are the criterion for one's own efforts;
--more of an analysis of long-term demand developments and the developmental tendencies on the world market by way of cooperating with domestic and foreign users; the development of cooperation with GDR and USSR chemical combines and academy institutes and universities;
--a technological streamlining and specialization of the combine enterprises; setting up technological and testing centers in combine enterprises; assigning responsibilities for the development, project planning and construction of pilot plants to specialized enterprises and areas;
--a reorganization of the vast project planning potential into intelligible, application-oriented areas; and
--working with the "mission chiefs" for scientific-technical top projects; granting the general director's science award, awarding the title of "Best Inventor" in the combine to be earned by way of competition.

It became clear from the discussion that a consistent and idea-rich implementation of the party resolutions is the decisive guarantee for successful management activity. Many central committee party organizers reiterated during the discussion that ensuring the combines' high achievement goals also demanded high-quality work in the party organizations that must be fully oriented to the three main trends for gaining political leadership skills in social processes, through the party, pointed to by Comrade Erich Honecker at the 10th party congress.

Altogether, the experience exchange illuminated through many examples what important economic reserves can be tapped through further improving the effectiveness of qualitative production factors, and especially through the application of most up-to-date scientific-technical data and the broad use of refinement processes. Comrade Guenter Mittag, who had opened the seminar, also gave the final speech at this creative conference, which was marked by an optimistic and combative atmosphere and testified to the readiness by all attendants to do everything they can in successfully implementing the 10th party congress resolutions.

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ECONOMIC EFFECTS OF MICROELECTRONICS DEVELOPMENT DISCUSSED

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['Economy--Focus of Our Social Policy' feature article by Gerhard Tautenhahn, member, department chief, SED Central Committee: "Microelectronics in Our National Economy"]

> [Text] Based on a strategic conception by our party leadership, the GDR today has achieved efficient capacities in the field of microelectronics and, thus, good starting positions for further accelerating its development and application and reaching international top standards in selected areas. Which are the most important tasks in years ahead for employing microelectronics in their full breadth--while also, and particularly, rigorously developing and using robot technology--and for achieving through a purposeful management of the innovator processes an optimum economic benefit and social effects?

Proceeding from a penetrating and realistic analysis of the results and successes in our development thus far, the 10th SED Congress has worked out, for the next segment of our struggle, the tasks for the continued implementation of our party program goals in the 1980's. As the party congress has resolved, the proven course of the main task, the unity between economic and social policy, is going to continue even under the altered and more complicated conditions! Our economic strategy for it is summarized in the ten key points presented by General Secretary Comrade Erich Honecker in his central committee report to the 10th party congress. Essentially this explains to us that our intensively expanded reproduction becomes more and more the determining criterion of our planned economy.

Its focal point is a better use of all qualitative economic growth factors, mainly of science and technology. It has become necessary to take another step toward combining the advantages of socialism with the scientific-technical revolution and make full use of its inherent opportunities for the performance growth and efficiency improvements of our economy.

Any modern economy finds its level and efficiency increasingly determined by the degree of refinement in its production. A higher degree of refinement for our raw materials and working materials, which must crystallize in new products and technologies with high economic effects, becomes the determining developmental direction in our economy. The key position is held here by microelectronics, the highest form of refinement at present. It helps implement intensification at a higher plane and in new dimensions and permits rationalization effects at heretofore unobtainable economic magnitudes.

In product development and in the technological field, the use of microelectronic components led to considerable consequences. It was possible to improve equipment, machines and installations noticeably, to improve their qualities significantly, and to reduce greatly their material and energy consumption and their production costs. Today we have products and technological solutions that would be inconceivable without microelectronics: modern data processing installations and minicomputers, freely programmable electronic controlling devices for machine tools and industrial robots, electronic teleprinters and medical technological devices and microelectronic controls for rolling mills, chemical installations and in the transportation system. Only by using electronic components can high-grade consumer goods, e.g., television and radio sets, cameras, clocks and pocket calculators, be developed and produced in conformity with the demands of our time. Microelectronics acts as an impulse for scientific-technical progress. It is a result of the scientific-technical revolution, and at the same time always new impulses come from it for a higher level and faster developmental tempo in the science and technology of all branches of the economy.

With respect to the further development of microelectronics this means that research and design work must be further accelerated for new construction elements and components, their production proper as to demands must be organized, and their broad application in the economy must be ensured. That always again requires new high achievements in basic research at the institutes of the GDR Academy of Sciences, in the scientific-technical efforts in electrical engineering and electronics, in machine building, chemistry, metallurgy, the glass and ceramics industry, in the entire economy that is, so that we will be able to keep in step with the international tempo in the development and application of microelectronics.

Fine Starting Positions for the Development and Production of Microelectronic Components

In years past, particularly after the sixth central committee session, we have, on the basis of a strategic conception by our party leadership, established essential elements for our own material-technical base for the development and production of microelectronic components which constantly have to be perfected and further improved. "The GDR is among the few countries in the world today that have the potential for developing microelectronic components in important fields, for producing selected preliminary materials for them and manufacturing high-grade technological equipment for them. In 1976 we still produced only a small number of types of microelectronic components at a value of a few million marks. In 1980 we accomplished a production of nearly one billion marks of them."[1]

Today we have efficient combines in the semiconductor industry, capacities were established for developing the production of highly accurate technological equipment for microelectronics, and we were able to make progress in making high-grade ancillary products available. In the reproduction process of the microelectronics combine all decisive capacities have been melded together—starting from the microelectronics research and technology center down to the foreign trade enterprise--to meet the demands of the industry itself and of our export.

Through socialist cooperative work among the industrial research facilities and the Academy of Sciences, the universities, colleges and technical schools, important preliminary research tasks have been coped with.

These remarkable results were achieved primarily because our party brought about at a good time a clear political-ideological understanding concerning the goals and requirements of the resolutions in the field of microelectronics, came to grips rigorously with any obstructive notions, organized capacities correctly and generalized all positive experiences. It is crucial for the creative activity of the workers and all working people implementing those resolutions that under our social conditions microelectronics cannot become a "job killer" or a "Fury of progress," as in the capitalist countries, wherefore no "prescriptions for survival" have to be figured out either. That sort of problems solely and exclusively stem from capitalist power and property relations. When microelectronics supports the intensification of the capitalist reproduction process it deepens social inequality, sharpens the insecurity about their livelihood in ever broader strata of the working people, increases unemployment and intensifies exploitation. The ordinary working day of the working people confirms this realization of Lenin: "Progress of technology and science in capitalist society means progress in the art of squeezing out sweat."[2] Unequivocally, science and technology are socially determined and invariably serve the interests of the ruling class.

For the people in our socialist republic scientific progress and one of its outstanding achievements, the development and application of microelectronics, are a source for continued economic and social progress. It serves the interests of all working people--which could not be otherwise due to the political power of the workers class and to the public ownership in the means of production, as it shows in reality and is perceived as such by the people--and is of fundamental importance to our carrying on the course of the main task, tried and tested for a decade.

Because the performance and efficiency development of our economy decisively depends on products, technologies and procedures that are based on the application of microelectronics, it, together with such important fields in which it is applied as robot technology and electronic computer technology, is the centerpiece of our economic strategy. The results of the scientific-technical revolution will have to contribute significantly in our economy to boosting our production level in the 1980's. To put the economic and social benefits from the application of microelectronics fully into effect it is a cardinal question for the GDR economy, in line with the 10th party congress resolutions, further to accelerate the development and application of microelectronics. We have a sound basis for solving these tasks--as stated above. At the same time we never ignore that the speed and dynamics in the development, production and application of microelectronics also are rising internationally.

To further extend our positions it is imperative "to supply by 1985 the paramount share of our economic needs for microprocessors from our own production, and also to produce ourselves, by and large, all the ancillary materials for it and all the equipment for essential technological processes. Simultaneously we must reach highest international standards in selected areas and raise the quality of the products and applied technologies onto a new and higher level. All that must be marked by a higher degree of components integration. The developmental speed as well as the broad economic effects of microelectronics production have to be raised noticeably."[3]

How fast the developments are in this field is seen by that, according to international estimates, a degree of integration of several million transistor functions per chip (its size circa 100 square mm) can be obtained in 1985, while at present between 150,000 and 500,000 transistorized functions are feasible on a semiconductor chip. At the same time the assortment of components is broadening constantly.

Making sure that we get the requisite breadth of assortments in electronic components we must steadily improve our own achievements and also insure collective efforts and cooperation with the socialist countries, especially the Soviet Union. To that end we shall further develop and deepen our scientific-technical and economic cooperation with the fraternal socialist countries.

In this field we are using the advantages of socialist society by designing a component assortment governed by economic requirements and considerations. If some users refer to the spectrum of components that exists in the nonsocialist economic region, we must remind them that a very great variety exists for reasons of competition but certainly not for technically justified needs. There are estimates to the effect that circa one-tenth or one-twentieth of the component types available in the world would be sufficient for solving the tasks.

What mainly matters to the enterprises, combines and science institutions is to use the prerequisites existing in our republic and to ensure far greater speed in the application of microelectronics through our own production and the component assortments from CEMA imports.

Passive Components (e.g. resistances, condensers, spooles, control cards) create the mechanical or electrical conditions under which active components can meet their function-directed task. In an extended sense this also includes elements that do not have purely electrical or other physical functions but must rather be considered construction elements, such as switches, plugs, sockets.

Active Components make for reinforcing electrical or physical signals while using outside energy (e.g. transistors, thyristors). Thereby active components alone or in combination with passive components control the basic function of an electronic switchboard or circuit (e.g. amplifiers, oscillators, electronic circuit breakers).

Basic Technology is a technology by which a certain assortment of components can be produced within defined parameters. By altering steps of the process within a basic technology modified technologies arise which permit the production of specific component parameters.

The scientific-technical level of microelectronic components and the productivity in their manufacture go hand in hand with the development and supply of highly efficient technological equipment. That applies, for example, to crystal drawing plants, varnish coating and development plants, high-solubility photolithography equipment, automated assembly and seaming lines, measuring and testing technology and so forth. The fast scientific-technical development in the components sector necessarily demands high speed and scientific lead time in the design and production of technological equipment. According to international estimates, the value of equipment per worker in the semiconductor industry is rising considerably and reaches a level similar to that in the steel industry.

The development of technological methods and equipment for producing microelectronic components thus calls for many different research and design projects. Collectives in many combines of electrical engineering and electronics, machine building, the Academy of Sciences, and universities and technical schools are involved in that in our republic. Also in this field there is and develops an international division of labor within the CEMA framework.

To be able economically to produce components on a par with international standards, we need technological equipment and ancillary supplies in basic and supplementary materials of the greatest purity. On behalf of our continued stable economic development, we have decided to make more and more of such equipment and ancillary supplies available from our own production.

To Ensure Broad Application and High Benefit

The current five-year plan period also places higher demands on using the opportunities of microelectronics. Whereas in the 1970's its use was still confined to specific areas or first applications, it now must be applied in its full range. The effect of that mainly is a qualitative development of the production profile "governed by electronics, and aimed at higher productivity, complete solutions for whole technological processes, an improved materials economy and a longer working life and better quality."[4] That applies, without exception, to all public domains:

Integrated Circuit is an electronic component. It embraces up to many thousand transistors, diodes, resistances and condensers within an area of but a few square millimeters. The various components are electrically connected and housed in plastic or ceramic containers. The number, arrangements and electrical contacts of the various elements and the technology used in their production determine the applicability of any given type in electronics.

Microprocessor--an integrated circuit which, in miniaturized form, realizes the central unity of a digital computer. It contains the computer and control device and a storage unit affecting its internal function. This circuit is a universally applicable programmable standard component, a basic building block for constructing microcomputers and process controlling devices which, among other things, have introduced a technical revolution in machine tool construction.

Microcomputer--a miniaturized digital computer made up of highly integrated circuits like microprocessor, storage circuits and input/output units.

the most rational organization of main, supplementary and subsidiary production processes, the rationalization of routine data processing, including administrative work, better solutions in the field of public health and in improving public services (domestic trade, finance, banking, insurance, travel and traffic). Great scientific efforts are needed, of course, to get all the benefits from the use of microelectronics.

A broad application of microelectronics up to 1985 and beyond forms the decisive basis for a systematic renovation of the technical base of entire industrial areas and many combines and enterprises. That is an essential prerequisite for ensuring high rates of economic growth and efficiency gains. Our party leadership's strategic conception envisages appropriate targets. For example, by means of microelectronics from 20 to 25 percent of the envisaged labor productivity improvement up to 1985 is to be accomplished, thousands of workers are to be released for different jobs, and circa 25 percent of the material and energy savings is to be realized by science and technology.

To get such results, we must convert whole production lines to their end production by means of microelectronic components and component groups or put new products into production. By means of the freely programmable microelectronic control device CNC 600, for example, the labor productivity of various types of milling machines will be improved by 50 percent, programming periods will be reduced by 80 percent, their intrinsic value for the users will go up by 40 percent, and their volume will go down by 35 percent.

By 1985, more than 500 machine tools are to have their electronic controls. With the 1981 economic plan, the scientific-technical work and the responsible and constructive thoughts and acts of the scientists, workers and engineers in machine tool construction are directed at accelerating the application of microelectronics. Additional production lines will be equipped with the control generation of CNC 600, and on that basis we will start with the hand-feed control of CNC-H-600. That is the way to get to a much higher proportion of digitally controlled machine tools so as to arrive at more integrated production sectors and machine systems.

To create a greater constructive and technological lead time for new top achievements by the scientific-technical potential available to us, socialist cooperative work with other areas and science facilities will provide repeatable solutions for computer-assisted design and technologists' jobs in order to rationalize the production-preparation projects in the machine tool enterprises.

Great efforts are also being made with success in processing machine construction to vastly improve the production and end production levels. There the scientific-technical level of the products and the efficiency of polygraphic and textile machine construction are more and more becoming dependent on the use of electronic components and component groups. The proportion of such machines in our overall production has to be raised significantly in the years ahead. To reach that goal, the Textima Combine is setting up its own center for the development and application of microelectronics and, in selected enterprises, the necessary capacities for producing textile machine-specific controls and automation equipment. A few days prior to our 10th party congress, the first installment of this new project, produced exclusively by the capacities of its own construction department and its own construction of the means of rationalization, was finished and was assigned its proper purpose. That set an essential premise for contributing to a faster application of microelectronics in textile machinery construction through greater efforts of its own. The first results of this development are reflected in the new products, which enjoy international recognition. That ensures and further improves the high scientific-technical level of our textile machinery construction--two thirds of all its products carry the highest guaranty seal.

The development of "Textima-Electronics" is to yield an additional commodity output of more than M 100 million in the current five-year plan period. The use of microelectronics saves a lot of rolling steel and cast iron while it provides the users with more efficient and operationally safe machines.

That is the way that provides the opportunities for all combines to make use of microelectronics at short range and with the highest effectiveness. Yet such successes do not come by themselves. They come as the result of the party organizations' persuasive political-ideological work with the collectives and managers and reflect a combative position and a clear political attitude toward the central committee resolutions and the consequences for one's own work resulting from it. Success will come where the ministers, general directors and plant managers take the lead in coping with such a process and make sure that ambitious tasks are assigned through the science and technology plan and the requisite material conditions are provided according to plan.

The experiences presented also reflect an international trend. It turns out that through the fast inroads of microelectronics into all fields, users, to a high degree, make their own contributions to creating new technological solutions by means of microelectronics. Depending on conditions, these contributions range from their elaborating scientifically sound and clearly defined demands on the components to the designing of specific microelectronic circuits to their own production of such components and complete electronic groups of components and controls.

Rationalization Effects Through Industrial Robots

Industrial robots are one of the most important fields for the application of microelectronics. In the rationalization strategy prepared by the 10th party congress, they occupy an important place in increasing labor productivity and releasing manpower, in improving the efficiency and grade of labor, and in releasing men from heavy physical and monotonous work. "To ensure the steep rise in labor productivity, it is necessary to raise the number of industrial robots to be introduced from the circa 9,000 originally planned in the current five-year plan period to from 40,000 to 45,000."[5]

In our practical work we start from the proposition that industrial robot technology embraces a very broad palette of devices. It includes the universally applicable process-flexible robot--for loading assignments, for instance, or as a technological robot--as much as the simplest manual techniques to carry out different kinds of projects, which however always aims at releasing manpower by means of this technology. Robot technology includes devices that have a rigid or a programmable sequence of movements on the various construction levels, from the programming via fixed terminals to the free programming with teach-in input, from the simple movement along an axle to the free movement in space. And finally we also are confronted with the task to produce "flexible automation solutions by means of robots of the third generation and fully integrated testing and control devices."[6]

Looking at our experiences thus far in the development, production and use of the robots, it may be said that wherever one has worked with dedication and passion for such innovations, important results have already been achieved. To reach the target assigned by the 10th party congress, we must take every road and use all opportunities that impel us onward fast--mainly the capacity of our efficient combines. Possibilities for ensuring the anticipated number of units must be provided especially through a speedier development and extension and effective use of the central production units for components and robots, an improved organization of the division of labor process, and an expansion of the capacities for the construction of means of rationalization.

To give all enterprises, combines and science institutions access to the experiences gathered in our republic in the field of robot technology, a central data bank with technical-economic parameters is being set up for our entire economy for the development, production and use of industrial robots and the techniques needed for them, its periphery, in the research center of the Karl-Marx-Stadt machine tool construction combine. It serves the dispensation of knowledge and experiences from which the development, production and use of industrial robots and their periphery will benefit, will facilitate flexible automation solutions and other rationalization projects and help prepare management decisions.

Preparing the use of robots is a very comprehensive and complex task which must be pursued purposefully so that we then actually accomplish the possible economic and technical and social results--mainly the planned saving of at least 2.5 workers per robot. That is not possible, however, if the attempt is made of having the robots "grafted on" available techniques. What is necessary instead is to elaborate in the combines--in line with their rationalization conceptions--ambitious application conceptions for robot technology, create application centers and train personnel in good time.

Systematic Control Over Complex Innovator Processes

There is still another significant realization coming out of the experiences thus far in the development and application of microelectronics which should be called attention to. The systematic implementation of and control over such complex technological innovator processes demand solid conceptual work of all economic management levels. That must be closely tied in with the intensification conceptions of the ministries, combines and enterprises and be complex in character, clearly determine the economic, scientific-technical and sociopolitical goals and its own intrinsic tasks, and stipulate accurately the measures for the scientific-technical training for personnel.

Working with application conceptions for microelectronics has stood up well in practice. Wherever they become the management tool of the responsible personnel and assume an important position in the party organizations' political leadership activity things are making fine headway. Where it is not the case, problems arise and the introduction of microelectronics is too slow. More and more clearly our experiences tell us that the application of microelectronics in the various fields of the economy significantly depends on the basic position of the responsible comrades. What is mainly important is to prove and reinforce the conviction, through painstaking ideological work, that even now, with the assortment of components the GDR has currently available, we can apply microelectronics much more rapidly. Special attention must be paid here to the rationalization of technologies and techniques so that we can now already reap higher economic rewards. It requires, above all, that this way the planned saving in labor time is ensured, whereby manpower is released for other jobs, and that a large amount of material and energy is saved. The managers and party organizations bear a high responsibility for that. To be completely clear about that: great effects from the application of microelectronics come not only from its use in production but also from its use within the technologicaly processes, the rationalization of main, supplementary and subsidiary processes.

It is incumbent upon every industrial field and every combine to achieve optimum economic results by means of microelectronics in fulfillment of the 10th party congress resolutions. That calls for prudently figuring things out, for clear stipulations toward elaborating areas of emphasis, and thoughtful conceptual work within the framework of the combines and ministries. Simultaneously, the responsible industrial fields and combines have to work out accurately what their immediate responsibility is to the further development of microelectronics through their own products. That means that for most economic areas the important point is to fix their responsibility and concrete tasks as users as well as suppliers in this crucial area and make them effective through the plan.

The Further Molding of the Socialist Character of Labor

Microelectronics, an outstanding achievement of human creativity, not only has a revolutionizing effect on the material elements in the reproduction process. Its production and application also are tied up with important and penetrating changes in the nature of the working people's labor. Its basic tendency under our social conditions is the further molding of the socialist character of labor. This includes the further reduction in strenuous physical, hazardous and monotonous work as much as the enriching of work with intellectual-creative elements and the increasing combination between physical and mental activity. Proceeding with such objectives, technological processes have to be comprehensively rationalized from the outset. Labor contents must not be simply acknowledged as the outcome of technological processes but must be turned into important initial impulses for technical changes. Changing labor contents in this sense serves the development of socialist personalities and collective relations, increases the pleasure of work and promotes performance readiness.

The changes in labor contents can at present be fully observed in the combines and enterprises that make microelectronic components. This process got started in the application areas of microelectronics such as office and computer techniques, the telecommunications techniques, in tool and processing machinery construction and the basic materials industry (process automation). A comprehensive and penetrating conversion of the production profile is taking place, for example, in the VEB Robotron accounting machinery plant in Karl-Marx-Stadt. Within a few years a change is being made from thus far mainly electromechanical units to ADP and sorting devices applying microelectronics. Experiences in that enterprise demonstrate that such a production conversion calls for thorough political and technical preparation. Thus, through the use of microelectronics the typical labor content of the production worker in the accounting machinery plant changes from that of an office machine mechanic to that of an electronics specialists. This process calls for long-term planning and training and for rigidly organizing thorough and differentiated political work with the working people.

Naturally, that does not only hold true for the accounting machinery plant. Essential for solving the tasks assigned and thus for the speed in the development and application of microelectronics in the GDR is extensive training, which amounts to systematic advanced training for the working people concerned as much as to providing the proper proportions among the number of specialists, engineers and scientists to be trained in our eocnomy. Universities and technical schools and the Chamber of Technology are making an important and fine contribution in this field. Analyzing the 10th party congress resolutions we have understood that the training of all students in the technical disciplines must be organized and further developed in such a way that all graduates from colleges, technical schools and universities with application skills in microelectronics can get started in their practical work. We must continue to use all opportunities for training and advanced training to cope with the tasks that have to do with the development and application of microelectronics, which are comparable in their magnitude, at least, with the introduction of ADP. The results achieved in our republic with the development, production and application of microelectronics are a sound basis for successfully coping with the new and higher goals the 10th party congress has assigned to us. The whole point is to make still better and more comprehensive use in all fields of microelectronics as an important source for higher efficiency and labor quality.

FOOTNOTES

1. Comrade Erich Honecker, "Bericht des Zentralkomitees der Sozialistischen Einheitspartei Deutschlands an den X. Parteitag der SED" (SED Central Committee Report to the 10th SED Congress), Dietz publishing house, Berlin, 1981, p 37.

2. V. I. Lenin, "A 'Scientific' System for Squeezing Out Sweat," "Werke" (Works), Vol 18, Dietz publishing house, Berlin, 1962, p 589.

3. Comrade Erich Honecker, op. cit., p 65.

4. Ibid.

5. Ibid., p 56.

5. Ibid., p 50.

5885
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WAYS TO RAISE EFFICIENCY IN TRANSPORTATION SYSTEM POINTED OUT

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[Article by Otto Arndt, GDR minister for transportation: "Tasks of GDR Transportation System During 1981-1985 Five-Year Plan"]

[Text] The Tenth SED Party Congress has, in its resolution to continue its policy of placing main emphasis on the unity between economic and social policy in spite of changed foreign and domestic reproduction conditions, demanded tasks of historical significance. The ten main points of the economic strategy for the 1980's decided on by the party congress place high demands on the transportation system. The uniform socialist transportation system of the GDR has increased significance with its capacity and efficiency for the further social and economic development of our country in the 1980's. Along with work, school, and tourist related transportation, it carries responsibility for an important part of the main mission in its unity between economic and social policy. The dynamic growth of our economy, growing specialization, and cooperation on the national and international level, as well as extensive foreign trade relations of the GDR with countries of all continents, require a strong and reliable transportation system.

Our efforts to maintain peace and the military protection of our worker and peasant state are inseparably tied to the precise carrying out of all necessary transport tasks.

These few thoughts already point to the varied, growing interrelationship between the transportation system and important social areas, as well as the economic reproduction process. They show the high degree of responsibility which the transportation system has for the kind of development of achievement and quality, productivity and efficiency, which is worthy of our society.

With a Good Balance Into the 1980's

In goal-oriented realization of the SED resolutions and those of the GDR Council Ministers, the transportation system has reached a significant increase in capacity in the past decade, with a simultaneous improvement of its efficiency, as well as a basic strengthening of its material and technical basis.

Today, public transportation serves more than 11 million people daily. That is 17 percent more than in 1971, although the percentage of privately owned vehicles has more than doubled. The local traffic network has increased by more than 40 percent, the city subway system in Berlin has been further expanded, and in Dresden, Leipzig, Halle, Magdeburg, Rostock and Erfurt the intraurban electric railroad has been rebuilt. In cooperation, the railroad, automobile traffic, inland navigation and sea traffic transport more than 3 million tons of goods, while in 1971 it was still 2 million tons. In the seaports, the turnover capacity rose from 1971 to 1980 by more than 50 percent.

In the railroad system, more than half of the freight train depots were remodeled. Some 1,500 km of railroad tracks were extended in double and multiple tracks. The percentage of modern electro- or diesel-powered railroads has increased from 58 percent to 92 percent.

The maritime fleet has received 100 seaworthy ships. That means that every other ship in our fleet is less than 10 years old.

It was possible to lower absolute energy use by 8 percent during the past 10 years, although there was a 20-percent increase in passenger transportation and a 36-percent increase in freight transportation.

The effective coordination between the central rationalization strategy and enterprise and territorial rationalization has been increasingly successful. In the past five-year plan it was possible to introduce into practice more than 500 research and development results, increase the economic impact of the innovator movement by more than 40 percent to more than 300 million marks in 1980, and decisively improve the use of transportation capacities as the most important aspect of work through the use of complex key technologies and a cargo-handling pool.

This increase in performance brought with it a noticeable improvement in the working and living conditions of the transportation employees themselves. More than 300,000 workers received an increase in salary, and all of them have 3 to 10 days more annual leave than they did 5 years ago. The employees' working conditions also show a noticeable improvement, e.g. hot meals or more housing. All in all, the workers have fought successfully in socialist competition for the realization of the Ninth SED Congress resolutions, and have thus significantly developed the capacity of the transportation system. Sumultaneously, a good foundation was created for compliance with the new and higher standards set by the Tenth SED Congress.

Securing Transportation Performance With Lower Production Costs

The budget cuts for all transportation processes is a logical outcome of the SED's economic strategy for the 1980's.

The task is to carry out necessary transportation performance on the smallest budget.

If one considers that for domestic freight transportation alone more than 17 billion marks or approximately 5 percent of production costs of the entire national economy is spent, then this task, in its entire significance as an economic necessity, becomes clear. The 1985 goal consists of lowering transportation expenses by at least

20 percent. This is twice as much as during the past 10 years and requires that the entire freight transportation be carried out more efficiently, on shorter routes, and with less fuel. This demand was especially emphasized by Erich Honecker, the SED Central Committee's secretary general, in the Central Committee's report to the Tenth SED Congress. This is a complex task, which has an impact on all areas of the national economy, and which must be strictly directed by the transportation system. It means that domestic freight capacity will only increase to approximately 107 percent in spite of dynamic growth in industrial and building production, while in the past five-year plan it was still 116 percent.

Our approach to the task is therefore a shift in emphasis in the economic strategy for the 1980's in four closely related trends:

1. More realistic estimation and planning of economic transportation requirements. In this year's plan, for the first time, compulsory limitations for transportation use were set for various economic areas. Ween the ministries and bezirk councils advise the combines and enterprises under them about these instructions, the necessary experience for better transportation planning must be gained. This is an important prerequisite for working out quotas for respective branches of industry. These quotas are to be introduced and used for determining requirements beginning in 1983.

With the introduction of new domestic freight transport tariffs for the railroad, highways and inland waterways beginning in 1982--planned is an average increase of 60 percent over present tariffs--combines and plants are to be urged to be more frugal in transportation with economic incentives.

2. Optimal coordination between delivery and transportation of goods. Approximately two-thirds of the volume of railroad freight, especially of coal and energy, the building and chemical industries, metallurgy, ore mining and potash, as well as agriculture, forestry and food industry, are included in this process step by step. Altogether, this will result in an annual 2 to 3 percent reduction of transportation costs for all products included--a saving of more than 7 million liters of diesel fuel, and the release of freight space for approximately 3.5 million tons of freight. Good results reached so far in coal and coke transportation to 3,000 destinations support this statement.

3. Favorable work distribution among carriers. This is characterized by the greatest saving in energy possible. Here, we vigorously continue to replace highway transportation with railroad and inland navigation. The key to the quick and energy-economical increase in railroad capacity is an accelerated changeover to an electric railroad system.

It is important to speed up the atuomation, i.e. the mechanization of the railroad through increased use of modern safety and switching technology. In the coming years, it is also intended to give inland navigation--the most energy-efficient carrier--a greater part in domestic freight transportation and thus free the railroad to take over more freight from highway transportation. When it comes to foreign transportation, the rate of exchange will decisively determine distribution among carriers. Here, for example in the relations between the USSR and the GDR, which are most important for our foreign trade, transport by sea has vast advantages over transport by railroad. This point of view, as well as the dynamic growth of foreign trade by sea, requires a rapid increase in capacity of our seaports and our seafleet.

4. Rational transportation logistics within the individual traffic branches.

Most important here is a more effective use of freight trains, trucks, inland ships and seaworthy ships. We especially emphasize greater speed in loading and unloading around the clock, on weekends and holidays, and on shorter runs; better utilization of freight space corresponding to the type of freight shipped; and the avoidance of damage to the carrier, especially during loading and unloading, as well as quick repair of damaged vehicles. Additional effects are to be gained especially through a more purposeful use of the possibilities of territorial rationalization. The good results reached in using complex key technologies--following the Soviet example of Odessa-Ilyishovsk--where the railroad interacts with the economy, must be further expanded and good results must be generalized even more rapidly. For example, last year freight train space for 4 million tons was saved and used for other purposes. We also expect even greater efficiency from the approximately 1,100 car pools which have been formed by more than 5,000 plants. The example is set by Glauchau Kreis, where car pooling is organized under the strict leadership of kreis party and government officials according to new principles, and where this year alone, a 10-percent lowering of transportation costs is striven for. The existing and yet to be formed cargo-handling pools must contribute even more effectively to the better use of the available technology and personnel resources and speed up transport processes. And, last but not least, the computer-guided control and coordination of vehicles, which must make the largest contribution in the saving of diesel fuel, is an important source of greater efficiency.

High Quality in Commuter, School and Tourist Traffic

The Tenth SED Congress emphasized the important role which the struggle for high quality plays in our economic strategy for the 1980's. We know that exemplary commuter, school and tourist traffic means that social policy has become reality. Greater efforts must be aimed at the effective support of our nation's important--DM 3 billion annually--sociopolitical accomplishments in securing price stability in passenger transportation through satisfactory performance of public transportation and improved quality. A further goal is to make the use of public transportation, especially the railroad, more convenient for the long-distance traveler. Energy-economic aspects will in the future also affect public transportation to a greater degree. This means that railroads and, where street size permits, electrically-powered local transportation, are favored over buses. The key to all these measures is an improved standard in transportation. This means especially lasting improvements in quality. Dispatching processes, especially those controlled by microcomputers, must be improved further, streamlining and scheduling must be organized better, punctuality and cleanliness of vehicles must be increased, and information and welfare of travelers must be improved.

Science and Technology, the Decisive Link in the Chain

A significant increase in efficiency and productiveness of science and technology is the decisive link in the chain to securing transportation system goals. Our technical progress, especially investments in rationalization, must have priority. It is most important to:

1. Accelerate the speed with which the railroad system is changed over to an electric system.
2. Expand the railroad network through addition of multiple tracks, and mechanize switching yards.
3. Accelerate the equipping of tracks and stations with rational safety and telecommunication engineering.
4. Increase efficiency in seaport transfer by using rational transfer technologies.
5. Consider traffic when adding new residential areas and industrial sites, rationalize commuter, school and tourist traffic.
6. Better automobile maintenance through mechanization, condensation and specialization of repair work.

Between 1981 and 1985, 70 percent of all investments will be in the railroad and navigation systems. The changing role of both commercial and private highway traffic because of energy-economic reasons influences our policy. Future requirements consist primarily of maintaining our country's sufficiently developed highway system and guaranteeing that streets are passable.

Our Own Contribution to Strengthening the Material-Technical Basis.

Our own contribution to strengthening the material-technical basis must be considerably increased through additional rationalization measures in the areas of repair and building. This means better repair work necessary for highly efficient carriers, routes and traffic installations, as well as providing better means of work and economization.

The 1985 goal consists of:

1. Reconstruction and new construction of freight trains.
2. Construction of tourist railcars in our own workhalls.
3. Production of large container cars.
4. Production of means of economization for approximately 1 billion marks in the areas of switching and trackbuilding.
5. Regenerate parts and components for additional 1 billion marks.

Vehicle maintenance is to be increased by approximately one-third, a nearly 50-percent increase for the population. This corresponds to the economic strategy for the 1980's, which also demands from the traffic system achievements that benefit the population. Our own increased building production will mainly be concentrated on switching the railroad system to electric and the construction of an additional 500 km of tracks. Thus, transportation system employees, in addition to repairing and maintaining existing means of transportation, make their own contribution to the further strengthening of the material-technical basis of the transportation system, to greater rationalization, and to the guarantee of the spare part supply.

Qualified Leadership To Be Closely Linked With Socialist Competition

The high demands and higher standards of the 1980's demand new steps in the qualification of government leadership and planning. At present, this concerns especially a greater role for combines as the main form of economic organization. This goal economic strategy demands that we take new steps when we combine the advantages of socialism with the accomplishments of the revolution in science and technology. To increase the capacity and efficiency of the transportation system, science and technology face the following economic goals in the 5 years 1981-1985: Lowering of transportation costs by approximately 20 percent. This corresponds to a transportation performance of 30 billion tkm. Reduction in energy consumption by 35 Peta-Joules, which corresponds to an equivalent of 6.5 million tons of lignite. A saving of approximately 33 million manhours per year to assure the necessary increase in work productivity by 3 percent per year. Reduction in material consumption by 3 to 4 percent annually, which corresponds to at least 250 million M/annually. Improvement in quality and safety of transport, transfers building and repair processes, as well as of working and living conditions of workers.

To fulfill these goals, approximately 90 percent of the centralized scientific-technical potential is concentrated on the main trends of nationalization. At the same time, scientific-tehhnical work must be used more effectively in all its latitude and variety as the most important source for further improvements in the transportation system. This concerns the work of research institutes and rationalization offices, the innovator movement, the "Fair of the Masters of Tomorrow" movement by our young generation, and the work with plans of technical-organizational measures (TOM plans).

For the future work in research institutes as well as in combines and enterprises, it is especially important to place even more emphasis on those tasks which lead quickly to better performance and efficiency in the transportation system. This requires above all intensifying technical research and thus achieving greater efficiency more quickly. This concerns especially the development and use of highly efficient technologies and the further complex mechanization in loading and unloading processes which save manpower simultaneously. The extensive use of microcomputers is especially significant for scientific-technical progress in the transportation system. Thus, the transportation system, with its various control, automation, production and service processes, and the economization of administrative work, plays a key role and creates important prerequisites for manpower savings, lowering of production costs and raising the scientific-technical standard of transportation and production processes. Points of main effort are: Direction and carrying out of the most energy efficient transportation processes; rationalization of dispatch and service processes in travel and freight transportation; rationalization of railroad and highway traffic; the automation of preparatory processes in vehicle maintenance, including technical diagnostic work; control of switching installations; traffic-dependent control of highway and local traffic; rationalization of data gathering and data processing.

Within the five-year plan, the prerequisites for the production and use of 2,000 industrial robots must be created. First experiences and data about robot technology exist in the national railroad works in Halberstadt. These futuristic technologies are to free approximately 7,500 transportation workers for other jobs by 1985.

The rapid introduction of scientific-technical answers depends decisively on the possibilities created by rationalization efforts. For that reason, the expansion of existing and the development of additional production, building and assembly capacities are very important. In the course of the five-year plan, it is planned to increase production of rationalization means to 240 million marks annually, and thus almost double them.

Most Frugal Energy Consumption Is Most Important Requirement

Presently, transportation and commuter traffic use up approximately 15 percent, i.e. two-thirds of the GDR's diesel fuel. For the 1981-1985 Five-Year Plan we face the task of carrying out the growing (though less growing) transportation work with approximately 25 percent less diesel fuel and 22 percent less heating oil. This alone shows the size of the goal, and the demands made on the general rationalization of freight transport in the entire national economy. For that reason, it is necessary, in addition to other methods, to better organize the work distribution among the individual branches within the transportation system from an energy-economical viewpoint. In order to transport 1 million tons per kilometer, more than 40 tons of diesel fuel are required for highway transportation, approximately 14 tons for transportation by railroad, and approximately 8 tons for inland navigation. Changing railroads over to electricity is most important for reducing energy consumption; therefore, this is included in the directive by the Tenth SED Congress for the 1981-1985 Five-Year Plan. At least 730 km of railroad tracks are to be equipped with electricity by 1985; this means the speed is to be more than tripled. This will increase the percentage of electrically powered trains to 30 percent. This is also a decisive prerequisite for another 15 million tons of freight, currently transported by motor vehicles, to be taken over by the railroad in the future. This makes possible a saving of 400,000 tons of diesel fuel.

Far greater savings in diesel fuel in highway traffic are also necessary. In this area, it is important to coordinate and strictly control public transportation and commuter traffic more efficiently; to better utilize all technical, organizational and technological possibilities for lowering fuel consumption and to eliminate antiquated vehicles with high energy consumption; to have greater exchange of experiences gained in terms of methods and results of the most successful, with the goal of bringing them quickl into general use.

Rapid Increase in Performance Through Effective Investment Policy

In the transportation system also, a new approach is needed to use the available funds in such a way that its material technical foundation is strengthened in accordance with the high demands of the coming years, and that its capacities, especially that of the railroad and of navigation, are increased further. The most important task consists in concentrating available funds on those measures which most further the rationalization of transport, transfer and production processes. In the transportation system also, investments must become the driving force behind scientific technical progress, in accordance with the requirements of the economic strategy of the Tenth SED Congress for the 1980's.

In order to achieve even greater efficiency with every invested mark, priority must be given to equipment which can be produced quickly and building must be restricted to the absolute minimum. This guideline is guaranteed through ranking of investment objectives based on the economy. According to it, measures of scientific-is served by additional training of the leaders in the existing transportation combines and in the railroad, the further perfection of management and planning of motor traffic combines under bezirk management. Through the combination of all state motor traffic, municipal traffic (except for bezirk cities) and maintenance capacities into efficient traffic combines under bezirk management, more efficient planning and better use of available capacities are to be assured. For the purpose of uniform management and control of transport and maintenance processes in street traffic of the bezirks, it is intended to assign to traffic combines additional government balance, coordination and control tasks. It is important in transportation also to utilize all aspects of modern economy under consideration of specific conditions, and thus to assure greater efficiency in work. The managers bear high personal responsibility for higher achievements, for overall improvement in the efficiency and quality of our work. Along with their responsibility for their field of expertise, they must be even more conscientious about the political leadership and education of their collective. It is essentially up to them whether the workers properly understand the basic relationships within our economic-political development and put this realization into practice through conscious socialist conduct. By creating a creative working climate and educating the workers in their collectives, socialist competition has outstanding significance. Through it we realize the greater tasks which the Tenth SED Congress demands for our further economic progress. Experience shows that best results in higher efficiency are achieved wherever there is a close interrelationship between goal-directed leadership, well-thought-out work organization, and mass initiatives in socialist competition. It is important to better organize exchanges of experiences with concrete determinations as to what needs to be changed; to use qualitative standards for evaluation in competition and for comparisons; for each worker to know his part in fulfilling the plan and to receive precise instructions which not only contain quantitative standards, but also allow his work to be judged qualitatively. It is important to include workers in all phases of preparation and realization of the tasks and thus to give them the assurance that their word is of importance in our state. We are proud that we have a large number of proven collectives and personalities in the transportation system today, on which we can rely in the socialist competition for the realization of the tasks demanded of us by the Tenth SED Congress.

9328
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ENERGY MANAGEMENT PROGRAM OF SIXTH FIVE-YEAR PLAN DISCUSSED

Budapest TARSADALMI SZEMLE in Hungarian No 7, Jul 81 pp 13-23

[Article by Gyorgy Darvas and Istvan Papp: "The Energy Management Program of the Sixth Five-Year Plan"]

[Text] In recent years energy supply has come into the center of attention in every country in the world. In the CEMA countries and in the developed capitalist countries a number of programs were prepared which embrace the broader or narrower sphere of energy management.

A number of economists viewed the explosive change in energy prices in 1973 as the beginning of a new epoch in the world economy. Another significant increase in petroleum prices--by almost 100 percent--in 1979 topped off the problems. We also must face the problems of energy supply. In the course of preparing the Sixth Five-Year Plan we turned great attention to the development of a broad energy management program which embraces every sphere of society and the economy, a program which was approved by the government at the end of last year and which was made public at the beginning of this year.

The Role and Significance of Energetics in the Development of the Hungarian Economy

Famous specialists of the developed capitalist countries and some international organizations (for example, the Club of Rome) feel that in the future the development of the world economy will be defined by, among other things, the way in which the energetics problems are solved. These statements are in part exaggerated and in part pessimistic. But there can be no doubt that the way in which the energetics problems are solved will have a significant effect on the economic development of the world--and of Hungary therein. This is also indicated by the fact that the share of energetics in the total imports of the Hungarian people's economy is about 13 percent. The share of the energetics branches and sub-branches in the investments of the socialist sector is 15 percent.

We get an even clearer picture of the increase in the significance of energetics problems if we examine the domestic energy supply as a process, taking into consideration the interdependencies of domestic and international cooperation as well. In 1980 we covered 48 percent of all our domestic fuel needs from domestic resources; 52 percent came from imports. Between 1973 and 1980 petroleum prices in the non-ruble relationship increased about 11 times; petroleum and petroleum product prices in the ruble relationship increased about 5 times. In the same period the world market price for machine industry products increased only 2-2.5 times. Since the share of fuels is high in our imports and the share of processing industry--primarily machine industry--products is high in our exports, the increase in energy prices, a good bit swifter than the average, is one of the most significant sources of our terms of trade losses.

A review of the development of energetics investments is similarly instructive. In the first place, the world market prices of mechanical energetics equipment were marked up as a result of the worldwide sharpening of energy problems and, in the second place, the change in the structure of fuels used brought with it a significant increase in specific investment costs for the several energetics installations. In recent years--because of the increasing fuel costs--only coal and nuclear power plants have been built around the world in place of hydrocarbon power plants. With the present, extraordinarily high heating oil and natural gas prices the cost of electric energy from coal and nuclear power plants is already lower. At the same time, the specific investment cost for coal and nuclear power plants is 1.5-2 times that for hydrocarbon power plants. This, among other things, is interdependent with the fact that the specific investment cost for domestic power plants (the investment necessary to create 1 MW of power plant capacity) has increased 5-6 times in the past 7-8 years. So we have been forced, and we will be forced in the future, to put a large and increasing proportion of the industrial investments into the energetics branches. In the Fourth Five-Year Plan we turned 28 percent of all industrial investments; this ratio came to 33 percent in the Fifth Five-Year Plan and will come to 39 percent in the Sixth Five-Year Plan.

We can appreciate the true significance of these data if we also take into consideration the fact that the level of industrial investments in the Sixth Five-Year Plan will be 10-15 percent lower than in the Fifth Five-Year Plan while investments for domestic coal mining will exceed by at least 30 percent the investments between 1976 and 1980. In light of these data we can say without exaggeration that an efficient solution of our energetics problems is one of the key questions of the Sixth Five-Year Plan, one which will affect the developmental possibilities of our entire economy, not least of all the developmental possibilities of the processing industry as well.

The ratio of fuel costs in the expenses of enterprises and management organs is constantly increasing with the increase in energy prices.

So we must reckon with the inexorable fact that we can gain access to a unit of extra energy--whether from import or from an expansion of domestic resources--only at the price of expenditures which are increasing more quickly than the average. So we have a vital interest in seeing that we realize our economic growth with specifically decreasing energy expenditures. We should regard the mark up of energy import costs as a lasting process which cannot be reversed in the years which can be foreseen. In the final analysis this makes it necessary for us to draw the proper conclusions, of economic policy significance, in regard to guidance, planning, economic and legal regulation and more rational energy management.

The Development of Energy Use in the Past Period

The energy needs of the Hungarian economy increased relatively rapidly in the past decade, by 3.4 percent per year. The structure of energy use developed "unfavorably"—if we evaluate this from present conditions--for in 1980, as compared to 1970, the ratio of hydrocarbons in all domestic energy sources increased from 43 percent to 64 percent (and the ratio of petroleum therein increased from 29 percent to 36 percent). This approach, however, is ahistorical because it hides the fact that at the time cheaper oil and natural gas were taking the place of more expensive coal; the economic indexes of this, in extraction costs and in the lower investment needs, were a good bit more favorable for us as compared to coal and the spread of hydrocarbons in our energy structure was a great structural achievement for and moderization of our economy beginning with the 1960's, something which corresponded to the progressive development tendencies sensed in the world relationship of productive forces. The explosive increase in energy prices, primarily petroleum prices, in recent years radically changed the situation.

Another factor in the increase in the ratio of hydrocarbons was the manifold increase in the number of automobiles owned by the populace in this decade, which increased to more than one million. The share of highway (truck) transportation increased in freight traffic; hydrocarbon consumption by agriculture increased; and in this time we built up our olefine chemical industry on a chemical industry benzine base. In addition, in the early years of the decade, a number of industrial consumers replaced coal heating with hydrocarbon heating, which was understandable with the cheap hydrocarbon prices.

The following factors were characteristic of the past 10 years:

--The increasing speed of electrical power use (in 1970 we used 27 percent of all energy used to satisfy electrical power needs; in 1980 we used 31 percent);

—Among the producing branches the share of industry in energy use declined (by almost 3 percentage points in 10 years) while that of agriculture increased (by about 2 percentage points in 10 years);

--Energy use by the populace and the communal sector increased. The most characteristic example of this was the dynamic increase in the number of automobiles owned by the populace and in fuel use by the populace.

Between 1970 and 1980 use by the populace took about one-third of the increment in petroleum and petroleum products.

Oil heating spread in the past decade. The populace now has more than 2 million oil heaters and a considerable number are in public use. The amount of heating oil used for these--of the same quality as fuel oil--is about one million tons per year.

Electric power consumption by the populace increased dynamically (the average for the past 10 years exceeds the increase in total eletrical power use 1.8 times). This is closely interdependent with the mechanization of housekeeping and the development of durable goods supply. The fact that virtually every household has a radio, almost 80 percent have television, 85 percent have refrigerators, 80 percent have washing machines, 22 percent have electric water heaters and about 10 percent have electric ranges plus the fact that there was a swift spread in electric heating all mean that the share of electric power consumption by the populace increased from 12 percent in 1970 to 19 percent in 1980. This increase in itself, however, does not reflect the real technical or technological problem, which is related to the fact that the populace uses a significant part of its electric power consumption in peak times and thus consumption by the populace and the communal sector in peak times reached 40 percent of the capacity of the electric power network.

These internal and external factors had to be reckoned with when developing an energy conception and energy management program for the coming period. In compiling the Sixth Five-Year Plan and the energy management program we started from the following considerations:

1. We must continue to provide the energy sources necessary for social and economic development.

2. It is justified to reckon that in the decade ahead the prices of fuels especially of hydrocarbons, or the ratios thereof will increase further as compared to the present and fuel will continue to be an expensive item--whether we are talking about imports or domestic acqusition.

3. We will have a continuing interest in seeing that we realize our economic growth at specifically decreasing costs in all spheres (the producing sphere and the communal-public sphere) as compared to present and future expenditures for foreign acquisition and domestic production. Taking into consideration our given fuel use structure it is necessary before all else to conserve on petroleum, petroleum products and coke acquired via import.

4. But the moderation in specific energy costs and a change in the fuel structure cannot be the exclusive task of one branch (the energetics branch); rather, it is a comprehensive task embracing every sphere of production, transportation, transformation and distribution. Specific energy conservation must be regarded as one of the chief ordering principles in the operation of the existing production structure and in any expansion thereof. We must also reckon with the fact that a transformation of the fuel structure will be a long, time consuming task (because of the tools and time needed to expand domestic energy sources and taking into consideration the condition of existing consumer equipment, the costs of replacing it and the realistic possibilities of changing consumer habits).

5. In past decades, in the "age of cheap energy prices," the share of hydrocarbons in fuels used expanded significantly in the Hungarian economy. So one can foresee that for a long time it will be rational to exchange energy using, transforming and transporting equipment. This will make economical the utilization for energetics purposes of the domestic fuels (such as coal and wastes) which are relatively cheaper as compared to petroleum and petroleum products which have become expensive and which are constantly becoming more expensive.

To what limit can one consider energy conserving investments rational? It is obvious that these are not needed at "any price" but rather within the limits of economic rationality. They are rational as long as the energy saving achieved by the investment serving to rationalize energy management is greater than the fuel itself, whether we produce it domestically or desire to acquire it from import (in the case of domestic production, naturally, we must take into consideration the investment and operation costs as well, not least of all the circumstances of domestic production which are sometimes worse than the international average, because of quality and the greater expenditures needed). A number of studies show that in many cases, by means of rationalization, the needs can be satisfied at one-third or one-half the cost as compared to import or domestic energy production. So there are large reserves in rational rationalization.

The recognition of these things led to the necessity of working out an energy management program.

What Does the Energy Management Program Contain?

The energy management program contains the savings that can be achieved by organization and maintenance and by means of decreasing specific energy use in the manufacture of specific products and through the modernization of energy demanding technologies. It prescribes measures for the creation of target consumers and for the switching over of existing consumers so that we can save more valuable fuels (primarily hydrocarbons and coke) by using domestic fuels. It includes tasks connected with the manufacture of more efficient, more economical consumer equipment and the creation of producing and distribution capacity which will increase the flexibility of energy management (creation of cracking plants, modernization of gas and electric service, etc.). The program embraces tasks connected with increased use of domestic coal and the energetics use of agricultural and forestry by-products.

In the interest of economical utilization of electric power it prescribes measures for broader utilization of electric power outside of peak periods (stored heating and stored hot water) and, in some cases, where it can be justified economically, the replacement of heating oil with thermal electric power.

In addition to developmental and investment tasks a great role is given to organizational and legal tasks and the entire instrumentarium of regulation. Appropriate price policy guiding principles also aid realization of the program (the development of price ratios encouraging an exchange among the several fuels and a development of the fee system) as do preferences--in harmony with our energy policy goals--provided when offering credit and state supports.

The program turns great attention to ensuring the technical conditions for realization and when designating individual concrete tasks it sets forth conditions for providing the machines, equipment and instruments needed for realization of the tasks. All this shows that one of the chief characteristics of the program is a complex approach. It intends to achieve the goal with a coordinated series of measures embracing every sphere of research, technical development, production, transportation, transformation and marketing and with the necessary concrete and detailed exposition of the ways and means for realization.

Chief Goal of the Program

The chief goal of the energy management program of the Sixth Five-Year Plan is to continue and further develop the conservation processes begun in 1979-1980. In the past 10 years fuel and energy use by the people's economy increased by an annual average of 3.4 percent. Within the framework of the energy management program we hope to hold the increase in fuel use by the people's economy in the Sixth Five-Year Plan to at most 2 percent per year--with an increase in the national income during the 5 years of 14-17 percent.

So the chief goal of the program is to significantly moderate the specific energy consumption of the economy as compared to the previous period, to decrease the growth rate in the use of fuels (especially for hydrocarbons and coke acquired from import).

Over the longer range we want to significantly increase utilization of fuels of domestic origin (primarily coal and nuclear energy) and to gradually decrease utilization of petroleum products for heating purposes. At present we burn more than 2 million tons of heating oil of the same quality as fuel oil. This means that at present prices that part of the populace which uses heating oil is getting budgetary support from the state worth several billion forints per year.

In harmony with what has been said, we want to reduce the ratio of hydrocarbons from the present 64 percent to 59 percent by 1985 and within this to moderate the oil proportion by at least 4 percent. The change in ratio may appear relatively modest and to a large extent this can be justified by the fact that in a number of areas (such as in the heavy chemical industry and in automobile and truck transportation) there is no realistic way to replace hydrocarbons with other fuels by 1985. Changing fuels is possible primarily for certain industrial consumers and communal users--in addition to the electric power plants.

In regard to the use of traditional fuels the program poses a bold and stepped-up task; according to the program consumption by the Hungarian economy in 1985 cannot substantially exceed the 1980 level. This means that the increasing demands which can be expected in the plan period in several areas (for example the extra gasoline consumption accompanying the development of motorization) must be covered by conservation by other consumers, by changing fuels or by stepping up petroleum processing and transformation (creating a cracking plant).

State guidance organs, the enterprises and the populace will have a significant role in realizing the program.

State Tasks

The Sixth Five-Year Plan prescribes about 500 billion forints for development of the producing branches. When determining both state and enterprise developmental tasks we must regard it as a basic ordering principle that these developments result in the most efficient use of the energy available. Another important requirement is that the price policy in connection with various energy sources in the producing sphere encourage every consumer to moderate specific consumption and to change fuels in a rational way.

Realization of energy management tasks realized from central resources in the Sixth Five-Year Plan must be regarded as a state task. (Power plant use of the Central Great Plain natural gas with an inert content; electrification of at least 200 kilometers of rail line; linking the 100,000-120,000 new housing units in the plan period into the gas service; beginning to introduce cycle control to moderate peak electrical output; etc.)

The chief task of state economic guidance in these questions is to make the decisions within its sphere of authority in time, to supervise their execution and to take measures to head off obstacles which may arise. But it is also a state task to take measures interdependent with savings which can be achieved by means of organizational measures and by a better organization of maintenance. This represents many-sided tasks. (For example, modernization of the fuel accounting and certification system, new regulations for a more rational organization of delivery and better utilization of the transport park, creating the technical-economic and maintenance conditions for a more economical operation of the central heating systems, constant modernization of energy use norms, ensuring the appropriate quality of energetics equipment and devices and better energetics efficiency with appropriate standards and by tightening up authorization procedures, etc.)

Based on the authorization procedures, foreign and domestic trade must evidence greater consistency in the areas of import and trade. Deviating from earlier practice they must avoid the import and sale of devices with low efficiency which waste fuel.

Finally, the continual understanding and consistent supervision and rating of the concrete tasks of the energy management program is a state task.

Enterprise Tasks

When defining the tasks of the enterprises we must start from the fact that a consistent price policy in connection with fuels (in which the price of fuels will constantly approach the world market prices) will accomplish the following:

--Make the enterprises, especially the consumers in branches which are relatively energy demanding, interested in modernizing existing energy using equipment, because the investment expenditures connected with rationalization will be returned within a relatively short time out of savings on fuel costs;

--With the increasing prices for fuels the world market is marking up energy conservation equipment and solutions. The value judgment of the market will make manufacturers of energy producing and energy transforming equipment and consumer equipment interested in manufacturing equipment which is efficient from the viewpoint of energy consumption, because the energy savings can be recognized in the prices of these. Even today one of the crucial criteria for the competitiveness of products on the world market is favorable specific energy consumption.

So a consistent realization of price policy has a great role in the realization of the program. In addition the enterprises can count on the fact that more rational energy use by them will be aided by the preferences in the credit policy guiding principles and in the awarding of state loans and by an import policy which will be more deliberate than at present—taking into consideration the energy management points of view.

The energy management program studied and established--to the degree now known--the things which must be done for a more rational use of existing energy using equipment, for the replacement of heating oil and coke and for a modernization of various energy demanding technologies.

The studies show that in every chief branch of production we have broad opportunities to realize technologies which are more energy thrifty than at present (for example, recycling waste heat, better transformation efficiency in heating, etc.) and to manufacture domestically or acquire from import consumer devices and equipment which ensure more rational fuel use (for example, more efficient heaters, stoves, gas devices, housekeeping devices, etc.).

The significance of technological modernization is well illustrated, for example, in the case of ammonia manufacture. In Plant IV recently put into operation by the Pet Nitrogen Works they use hardly more than one ton oil equivalent energy to produce one ton of ammonia as opposed to the use of 1.5 tons of oil equivalent in plants operating with a less modern technology.

The broad spread of various modern energy consuming devices (equipment) shows very well the broad opportunities for energy conservation. The power required by the older, so-called tube television sets is 140-250 watts as compared to 60-70 watts for more modern (transistorized) sets. If we replaced one million old sets in our homeland we could save power plant capacity of at least 100 MW--considering that the great majority of private television sets are used in peak times. The investment cost of this alone is 3-4 billion forints. (This investment saving is about half the present full delivery price for one million black and white television sets.) Naturally, saving this investment--a one-time expenditure--does not include the energy savings which would arise among the populace, and in the people's economy, in the course of continual operation.

The following more significant specific energy conservation tasks for the several branches should be mentioned:

--According to preliminary estimates about 240,000 tons of coke per year could be saved in ferrous metallurgy by 1985 (by improving the quality of iron ore sinterings, by expanding the number of air heaters for blast furnaces, by oxygen enrichment of the hot blast, etc.).

--Energy use in agriculture could be decreased significantly by modernizing the technologies for drying fodder and products. (For example, energy savings could be achieved by preservation and use of certain crop fodders without drying, by nationwide use of wet storage and feeding of corn, by more modern storage and use as fodder of green fodders, etc.)

--Energy consumption in transportation--primarily in trucking--could be moderated by acquiring and installing instruments to measure consumption performance, by a development of maintenance and service capacity and by equipping certain trucks with consumption reducers. The further electrification of railroads, shifting freight shipments to the specifically cheaper water routes and a number of energy saving solutions--which could be realized primarily in road construction--would mean more rational energy management in transportation.

The energy management program gives an important role to replacing more expensive fuels with cheaper ones and to the use for energetics purposes of wastes and by-products. It prescribes the replacement of fuel oil and heating oil with coal in areas where this is justified and technically feasible (in the producing and communal spheres alike); it prescribes greater local use of geothermic energy, for example in growing plants; and, in the case of favorable technical and economic experiences with reference plants in the stage of realization, it prescribes use of a relatively large quantity of agricultural wastes (straw, corn stalks, waste wood, biogas, etc.) as fuel.

The recently published "Action Program" summarizes the most important tasks in the realization of the energy management program. We want to encourage the realization of enterprise tasks figuring in the action program primarily by means of economic regulation. Realization of the enterprise tasks will also be aided by credits and state supports in the Sixth Five-Year Plan.

Developmental actions serving energy rationalization will take place as bank deals--after a technical-economic evaluation of the proposals. More significant technological modernizations requiring assets in excess of 300 million forints and the larger support industry developments connected with these can be realized on the basis of ad hoc judgments.

The management organizations can make use of credit and state supports, state loans and basic awards, for the realization of energy management goals, for increasing the energetics efficiency of energy using equipment, devices and technological processes, for a reduction in specific energy use, for economical replacement of heating oil and coke with cheaper fuels, for increasing use and production of domestic coal, for decreasing energy use in transportation, for energotechnological modernization, for energy use of wastes, for improving the quality of building materials and structures, for use as fuel of by-products arising in agriculture and forestry, for use of geothermic energy and for the development of the industrial background needed to realize the program.

Enterprise energetics specialists will have an increasing role. Enterprise energetics specialists can do much for the realization of what is contained in the energy management program, primarily by regular maintenance of energy consuming equipment, by paying attention to the technological prescriptions and by initiating work organization which encourages energy conservation.

In the interest of more efficient energy management every enterprise must carry out an analysis of continuing energy loss, must work out specific energy expenditure indexes for products or for units of value, making a domestic and international comparison, must review production technologies from the energetics viewpoint, must provide instrumentation or automation and continual operational analysis of large energy using and transforming equipment, must constantly improve the efficiency and operational condition of local energy networks and must work out energy rationalization possibilities by means of proposing and carrying out competitions.

Energy management tasks which are more efficient than those at present must become organic parts of enterprise plans--especially for enterprises carrying out energy demanding activity--in regard to the current medium range plan. In the social debate of enterprise plan drafts special attention should be given to conservation proposals and to creating the conditions for their realization.

Participation of the Communal Sector and of the Populace in Realizing the Program

The energy management program turns great attention to moderating energy use by the communal sector and the populace. Energy use by the communal sector makes up more than one-quarter of all energy use. The possibilities for conservation are significant in this sphere also. We have an especially great interest in conservation of housekeeping heating oil, coke, central heating and hot water. In harmony with the standard of living policy the consumers price policy connected with fuels must take into consideration the interests of the people's economy and should provide an incentive so that the populace will be increasingly thrifty with fuels and so that the structure of energy use should better fit a more economical satisfaction of needs. With a number of measures the energy management program wants to moderate the burdens falling on the populace from an increase in fuel prices. The most important of these measures are the following:

--Creating a way to regulate central heat use and hot water consumption in newly built housing units and introducing billing proportional to consumption.

--Improving the insulation of apartment houses. It is also necessary to make private builders materially interested in using energy saving technical solutions.

--Ensuring the equipment and devices needed to replace the fuels which are to be changed.

--Modernizing the heating, cooking and hot water equipment used by the populace. By 1985 we must be manufacturing coal heaters which are at least 10 percent more efficient. This could result in cheaper energy use in 200,000 households. We want to increase use of energy saving fluorescent lighting; there should be broad use of low consumption television sets, which decrease energy use by 40-50 percent. We should see to the manufactures of switches which will make possible the use of at least 400,000 thermal devices using cheap nighttime current. In addition we should build up a modern energetics technical service and maintenance network with the regular use of which we could, according to the estimates, achieve energy savings of 5-8 percent per year.

We want to encourage the wide spread of energy saving, efficient, modern products and energetics equipment with favorable purchasing credit, exchange actions, etc. Commerce must prepare for the tasks which will fall on it from this process, which includes providing the necessary technical information.

A Few Problems for the Realization of the Program

The Sixth Five-Year Plan—despite its limited investment possibilities—prescribes significant investment and development and intellectual resources for the realization of the energy management program. We want to turn sums amounting to at least 30 billion forints, from various developmental sources (state support, state loans, credit, etc.), to the realization of energy management tasks. For example, the size of the state supports serving energy management goals will increase more than five times in the Sixth Five-Year Plan as compared to the Fifth Five-Year Plan (while industrial investments are not increasing but decreasing). We have given priority to a technical development policy and research which will encourage more rational use of energy.

Although the resources available for development will expand greatly they are not sufficient for the realization of the concrete proposals and ideas worked out in connection with the work done to prepare the program. On the one hand we must evaluate this positively, primarily because in this way we will have an opportunity and the means to choose from among the proposals those which will result in the greatest savings with the least relative cost. It is obvious that in realization priority must be given to the most effective proposals. Indeed! It is appropriate to regard the program as "open," to encourage the working out of additional proposals which—if they are more effective—will force out the prescribed but not yet initiated tasks, or which will provide planning with a foundation for designating tasks which will carry over into the Seventh Five-Year Plan. So constant competition is an essential element and characteristic of the program. At the same time, the large number of ideas requires a selecting of proposals, competition among them, ranking them according to effectiveness in such a way that the "openness" or competition should not contradict the fundamental goals and most important tasks of the program. What should we watch out for especially?

It would cause problems and difficulties if in execution we were not sufficiently consistent in requiring and implementing efficiency criteria (for example, the conservation norms must be constantly adjusted to changes in producers prices); if we did not ensure the ratios prescribed by the program between energy conservation tasks and tasks encouraging an exchange of fuels; if we were to turn the resources available not to energy conservation purposes but rather—going beyond what is prescribed in the program—to an expansion of fuel sources or other tasks.

The initial experiences in execution of the program show that in some enterprise thinking greater weight is given to an exchange of fuels than to absolute conservation of fuel. Indeed, a greater role is given to replacing hydrocarbons with hydrocarbons (for example, replacing heating oil with natural gas) than is given to replacing hydrocarbons with domestic fuels (for example, coal) or replacement with waste materials. Many enterprises want to use only central resources and are not making use of the credit possibilities. These tendencies are not in harmony with the conception of the program. So in the course of executing the program we must select among the enterprise ideas which have developed. The tools of the energy management program must be used to support only those tasks which are in harmony with the goals prescribed in it.

We must see clearly that the realization of the energy management program is not free of problems from the viewpoint of prices. It may appear at first approach that the ever-increasing level of producer's prices for fuels would constantly and automatically increase conservation. But this hypothesis is only partially valid. The increase in energy prices can have a fundamental influence on the market competitiveness of a number of producing branches. Naturally unfavorably. So in setting the prices of fuels a number of market economy countries give far-reaching consideration to factors influencing the competitiveness of their own industries. The question of correct price ratios is a special problem. Appropriate price ratios, the correct development of price ratios as among different fuels, has a crucial effect on the economic efficiency of exchanging fuels. If we take into consideration the combined motion of price levels and price ratios and the market competitiveness of the producing branches than we face economic problems affecting both industrial policy and energy policy the solution of which will require great circumspection in developing the price level and determining the price ratios and may require compromise solutions harmonizing contradictory interests.

We are counting on the fact that execution of the energy management program will become an all-social matter--in accordance with its significance. It is very essential, for example, that we turn special attention to energy conservation in the socialist brigade movement, in the labor competition movement and in the innovation movement.

Realization of the energy management program is an organic part of and a condition for successful fulfillment of the Sixth Five-Year Plan. It lays the foundation for one of the basic economic policy goals of the plan, the task of improving the balance situation of the economy, because in the event of its successful execution we can achieve by 1985 savings equivalent to about 1.2-1.5 million tons of petroleum per year, the value of which at today's prices comes to 400-500 million dollars.

It is worth while and necessary to unite and mobilize the creative initiatives and efforts of society for such a magnificent undertaking.

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METHODS, PROBLEMS OF ECONOMIC MANAGEMENT PUT IN PERSPECTIVE

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[Article by Janos Hoos, deputy chief of the Department of Political Economy, MSZMP Central Committee: "Timely Questions of Developing Our Economic Management System"]

[Text] The Socialist Planned Economy

Management of the economy in socialist countries is based on a planned economy. The socialist planned economy manifests itself in that economic development conforms to the plan; in other words, conformity to the plan is the outward form of the socialist planned economy. Conformity to the plan of the socialist economy's development means that--in contrast with the uncontrollable, spontaneous processes in capitalist social formations--social consciousness becomes the dominant: society's economic development is characterized by the realization of objectives set in accordance with the possibilities and common social interests, by approximate coincidence of the objectives and actual economic results.

A planned economy cannot be realized automatically under socialist conditions; it requires purposeful state management. In the realization of its function of managing the economy, the state is guided by the party that leads the construction of socialism and communism. In this way the system for managing the economy can duly take into consideration socialist society's political objectives and requirements.

The socialist state itself must develop the instruments of plan-conforming economic management, ensuring that these instruments will function in mutual harmony and will be perfected continuously. The state's basic tools for plan-conforming economic development are:

--National economic planning (the system of annual, intermediate-range and long-range economic plans);

--The economic and legal system of regulation;

--Economic management's system of institutions and enterprise organization.

Development of Our System of Economic Management

In our country the consolidation of socialist production and social conditions unambiguously reflects the fact that our system of management conforms to socialism's general economic laws and to the specific conditions of the Hungarian economy. The domestic peculiarities of our economic management stem from two circumstances: First, from a the Hungarian economy's high degree of dependence on the external economy, from the great role of foreign trade within the national economy. Secondly, from agriculture's relatively large share of production and export, and from its resulting national economic significance. Both circumstances require of economic management above-average flexibility and rapid adjustment to changing conditions.

Our system of economic management--always taking into account the general laws of socialism as well as our domestic peculiarities--has undergone continuous development. Especially important milestones of this development can be distinguished since 1956. The most characteristic phases of this development have been: abolition of compulsory deliveries in agriculture, reduction of the number of obligatory indicators prescribed by the plan, and the introduction of profit-sharing. Relying on these phases, it was an epoch-making step in our country to develop and introduce the new system of economic management. This mechanism liberated new energies for our progress. It has contributed to a large extent toward the fact that the economy's potential has more than doubled since 1968, the processes of reproduction conform more closely to the plan and are better reconciled internally, and the population's living conditions have improved. But it is likewise true that some of the assumptions we made at the time of developing the system of economic management, regarding the external and internal economic conditions, did not materialize. We found--to mention only the most important assumptions--that the world-economic conditions of our development changed, becoming more difficult than expected. But the internal conditions of economic activity did not change adequately, and this too played a role in that supply and demand were not suitably balanced, and the assumed competition among sellers and a buyer's market did not develop. All this is related to the fact that at the given time we concentrated our efforts too much on the economic regulators and devoted less attention to analyzing what changes our development required in the economic and social processes, in central management, and in the enterprise system.

Another lesson of the more than a decade is that we, amidst our altered external and internal conditions, did not devote sufficient attention to the coordinated development of the individual elements in our system of economic management. The price system, despite significant changes, was not sufficiently flexible, and thus the profit incentive's sphere of influence and intensity declined, enterprise and personal incomes became equalized, the limits of state and enterprise decision-making competences, rights and responsibilities became blurred, and our organizational system became rigid. Here we should mention also the fact that the so-called "brakes," which were built into our system of regulation temporarily, were never dismantled, not even when it would have been possible to do so; to the contrary, we relaxed the normative nature of our system of regulation, and for this reason the discontinuation of uneconomical production proceeded only at a slow pace, without making much headway.

On the basis of our experience we were forced to draw the conclusion that constant and coordinated development of the elements of our economic management was necessary. Further development is particularly important when significant changes occur in the conditions of economic development, in the economic environment. This does not mean altering the character of economic management, rather the modifications must enhance and ensure more consistent application of the basic principles. The fundamental objective, then, is to find more effective methods and to apply them consistently in the practice of management.

The state of our economic equilibrium and the coming economic tasks require even greater flexibility than up to now, ability to take action and to respond more quickly and decisively. A fundamental task in the area of economic management is to ensure in a planned manner the framework for a rise in efficiency at the level of the national economy. To this end we must know how to maximally utilize the conditions and possibilities of the socialist planned economy. This is a task that cannot be achieved spontaneously, without the purposeful management of society. This necessitates --as stated also in the resolution adopted by the 12th party congress--the coordinated and integrated development of all elements of economic management: of national economic planning, regulation, and the system of organization and institutions.

Principal Directions of Developing Economic Management

National Economic Planning

Our present system of planning was developed after the introduction of the economic reform. Its fundamental tasks, and the basic principles of preparing, approving and implementing the plans, are laid down in the Law on National Economic Planning, enacted in 1972. During the past decade, planning developed in the direction specified by this law, in harmony with the basic principles of economic management. Experience shows that our planning is essentially suitable, and that we have instituted a unified system of national economic plans, differing in their durations. The functions of a planned economy have been realized in our country through the planning system, in such a way that

--national economic planning,
--local-council planning, and
--enterprise (or cooperative) planning

are sovereign, coexisting and organically connected subsystems of planning.

Within the planning system, however, national economic planning (the national economic plans) is of outstanding significance with regard to economic-policy objectives. All this, however, does not mean that there is nothing more to be done in this area. Planning must serve more effectively the functioning of our economic management system. The principal directions in the modernization of planning can be defined as follows:

--The planning system must serve more purposefully the requirement of the national economy's intensive development;

--It must perfect the harmony of the economic-policy objectives and regulators, respectively the planning of this harmony;

--National economic planning must form a more meaningful relationship with enterprise and local-council planning;

--In the course of drafting the plans as well as during their implementation, planning must stimulate the democratic development of state life, and of the economic sphere in particular;

--In addition to being economic, planning must increasingly become also social; to this end it must take more closely into account also the results of the various social sciences.

Several stages of the outlined direction for the development of planning have already been realized. For example, the Sixth Five-Year Plan--due in part to the requirements of intensive development and to the external conditions--is more flexible and more open than the previous five-year plans; thus it better enhances faster adjustment to the possibilities and conditions, and management and actions that suit the new situations. Despite its open nature, however, the Sixth Five-Year Plan is nevertheless sufficiently specific--regarding the main economic-policy objectives, and the principles of management and regulation that influence economic activity--and it consistently enforces the requirements that stem from the increasingly difficult conditions.

With the Sixth Five-Year Plan, planning has also become more democratic, as this is evident from the public debates on the plan. Parallel with annual and intermediate-range planning, or in substantive connection with them, there is also long-range planning, for the period 1981-1990. Characteristic of this long-range planning is the wide participation of interested organs and an effort to project also the social changes in addition to the economic ones, respectively the social effects of economic decisions and the economic effects of social decisions. In this latter sense, then, long-range planning is striving to advance in the direction of social planning. With all this, of course, the further development of planning cannot be regarded as complete, and it must continue more intensively in the outlined direction.

Perfection of the System of Regulation

Significant results have been achieved also in perfecting the system of economic regulation. The Sixth Five-Year Plan's specific system of regulation represents important progress in comparison with the earlier system of regulation, and particularly the new price system differs qualitatively from the previous price systems. At an overwhelming majority of the industrial enterprises the change introduced as of 1 January 1981 places the domestic producer prices directly under the control of the world-market prices, and thus the economic units that employ this method of pricing can operate effectively only if they keep pace with international competition also at home.

Experience with the functioning of the new price system has been basically favorable so far, confirming that the new price system is in accord with the basic requirements of economic policy. In the light of our 1980 experience, it can be established that the new price system and price mechanism have a favorable effect on economic work. However, our experience also emphasizes that the new price system's principles and mechanism will have to be asserted even more consistently in the future. But this does not exclude--rather it confirms in many respects--the possibility that there may also be corrections and adjustments when necessary. A particularly important task is to maintain, and even strengthen, the compulsion to export. In the interest of increasing the positive price effects, consistent implementation of the pricing regulations must be ensured, the area in which competitive pricing is employed must be broadened, and simultaneously competition must be strengthened.

From the viewpoint of the new price system's functioning it is important that the other elements of the economic regulators be in closer harmony with the price system, respectively that they reinforce the price system's efficiency-orienting effects. This means first of all that the other elements of the regulators must not limit, through various subsidies and taxes, the price system's function of providing economic perspicacity. It is particularly important to pursue a flexible exchange-rate policy, but also the credit system, and the system of budgetary subsidies and taxes, must act more effectively than at present, in the direction of enforcing the requirements of efficiency. Whenever the automatic mechanisms of the system of economic regulation unambiguously show that a business is unprofitable, and that it is impossible to permanently ensure its efficient operation, suitable measures are necessary to discontinue the economic activity and to redirect its resources to more efficient utilization.

From all this it follows that the key question in perfecting the system of economic regulation is the price system, respectively its consistent application in accordance with the announced principles. Significant tasks have yet to be solved in this area.

In the further investigation of our topic, the wage system deserves special attention. Our present wage system better serves our economic interests than the previous ones did, but the satisfaction of the requirements stemming from intensive development necessitates significant further progress also in this respect. This is not a simple task, because our wage system must be in harmony not only with the requirements of improving efficiency, but also with the requirements of a balance between purchasing power and market allocations. The simultaneous satisfaction of both these sets of requirements is an exceptionally complicated task. Nevertheless, what has to be done cannot be delayed for long.

A critical analysis of the regulation of wages and earnings reveals that it attempted to solve too many tasks simultaneously, and not always successfully. The principal task was the regulation of personal incomes, respectively of the outflow of purchasing power, at the macroeconomic level. At the same time the regulation of earnings set limits for the management of wages at the enterprises, and for personal monetary incentives. Because the role and essence of the management of wages at the enterprises were determined by the general manpower situation, by the specific labor market that affected the enterprises, by the internal forms of material self-interest, and by various demands placed on the enterprises, the requirements of regulating earnings at the national economic level often were not in accord with the enterprises' potential and sound production policies. The present practice of income regulation is linked in principle to enterprice performances, but actually it has been impossible, or hardly possible, to demonstrate a linkage to performances, on the basis of the ratio of the differences in the level of efficiency, to the differences in wages and earnings.

Under the 1980 system of economic regulation the same problems arose in conjunction with wage regulation as under the earlier conditions. Even today, most operational interventions in the income processes of the enterprises occur through the system of economic regulation. From all this it seems that in this area our most urgent task for the coming period is to create closer harmony between our economic and political objectives--particularly the ensuring of greater differentiation that reflects efficiency and provides more incentive for its improvement--and the individual elements of the system of economic regulation on the one hand, and the regulation of wages and personal incomes on the other.

Development of the System of Institutions and Organization

Development of the system of institutions and organization means perfection of the institutions of central state control, respectively of their decision-making mechanism, and also the modernization of enterprise organization. Significant progress has already been made in both directions. The common characteristics of this progress are: an attempt to achieve the highest possible degree of deliberation; and gradualism, i.e., the avoidance of flash-in-the-pan solutions.

An important milestone in the development of the system of institutions was the establishment of the Economic Committee (Gazdasagi Bizottsag), in addition to the State Planning Commission (Allami Tervbizottsag). The purpose of establishing the Economic Committee was to separate the decision-making and continuous state administration in conjunction with the implementation of the national economic plan, from the economic managing activity of preparing and substantiating the plan. At the same time the number of government committees was reduced, and thus the danger that the decisions adopted by the governmental system might become dissipated declined. (The Committee on International Economic Relations ((Nemzetkozi

Gazdasagi Kapcsolatok Bizottsaga)) and the Interministerial Price and Product Marketing Committee ((Tarcakozi Ar- es Termekforgalmazasi Bizottsag)) were abolished.)

In sum it can be established that two government committees were formed in the area of economic management: one concerned with the more general questions of economic management and with the decisive questions of planning and regulation (State Planning Commission); and the other to direct the implementation of the plans, the government's day-to-day work (Economic Committee). Accordingly, the task of the Economic Committee is to coordinate the continuous, day-to-day tasks of management, but it also has been assigned the task of directing international economic relations. An essential consideration in establishing this committee was that the external and internal economic processes be under unified and continuous central management.

An important step in developing central management's system of institutions was the establishment of the Ministry of Industry, and the expansion of the authority of the National Materiel and Price Office (Orszagos Anyag es Arhivatal). As before, the Ministry of Industry performs branch, public-agency and enterprise-supervising functions. Accordingly, it participates in the formulation and implementation of the economic-policy objectives applicable to the industries that it manages, and coordinates the development of these industries, mutually and with the other branches of the national economy. For the most part it has been relieved of the product-marketing and primary pricing-authority functions that have been taken over by the National Materiel and Price Control Office. The Ministry of Industry is able to ensure conditions far more favorable than previously, for the formulation of an integral industrial policy, for the coordinated elaboration of this policy's system of objectives and instruments, and in general for realizing the management of industry in accordance with the new basic principles of management. Enterprises can thereby enjoy greater independence, together with all the resulting advantages, and central management of industry can substantively become more efficient and effective, due to the fact that it will be able to investigate and analyze, comprehensively and in a coordinated manner, truly significant questions that pertain to industrial policy.

Expansion of the authority of the National Materiel and Price Control Office makes it possible to better integrate into economic management as a whole the market-supervision activity related to day-to-day management, and within this also the general principles of market regulation and its mode of functioning in practice can better meet the requirements of the new stage of intensive economic development.

In the course of the institutional changes in central state control, a framework has essentially developed that will be retained, so it seems, also in the long run. Thus the principal task in the coming period will not be primarily the preparation of new organizational changes, rather the consolidation of the existing organizational framework and structure, and imparting substance to it, so that this organizational structure may perform its basic function more and more effectively and may overcome as soon as possible the initial difficulties that necessarily accompany changes. Consequently, the primary task in the future will not be structural rearrangement--although it too cannot be excluded when warranted--but the consolidation of the existing structure and the increase of its effectiveness.

Gradual changes occurred during the past period also in the organizational structure of the enterprises. Several large enterprises have been organizationally decentralized, in accordance with the functions of the given enterprises and economic units, or for the more effective performance of these functions. Perfection of the enterprises' internal mechanism, and the granting of greater independence and responsibility to the factory units within these enterprises have been formulated as stricter requirements. This activity is continuing, but here again it is necessary to avoid flash-in-the-pan and perfunctory solutions. In accordance with this, the crietrion for deciding is not size alone, rather the substantive task or function that must be solved. On the basis of the latter it might be warranted to establish small and intermediate enterprises, to organizationally decentralize nationwide large enterprises, or to choose organizational centralization of enterprises when this is warranted, and occasionally to increase the size of an enterprise through organizational solutions.

Flexible Management

The requirements and practice of comprehensively perfecting the system of economic management will necessarily bring about also organizational structural changes that might cause local conflicts. This again raises the question of how to interpret national economic stability and local stability. After careful deliberation, the answer can only be that national economic stability is of fundamental importance, and in its interest it may be necessary to accept in warranted cases even the purposeful disruption of local stability.

In the practice of economic policy, in economic management and in the plans, it is necessary to assert the principle that, amidst changing conditions, complete stability cannot be maintained in every area of the economy, neither in relation to the objectives nor to the employed instruments. Uncertainties necessarily exist also in the plan's assumptions--due predominantly to external conditions, and also because of certain internal factors. Therefore we must pursue a practice of economic management that monitors the processes more closely. When there are significant changes in the basic assumptions, or when the economic processes significantly depart from the expected, economic management must prepare in due time proposals for suitable measures.

Admittedly, more time is needed for the complete unfolding of the forces that stimulate a rise in efficiency, but progress has been slower than desirable or feasible. Therefore the modernization of management, and within it of economic regulation, remains a continuous and simultaneously pressing task. The greater effectiveness of economic regulation requires that we dismantle the built-in compromises, and that we enhance flexible adjustment to the changing conditions, through timely corrections and careful consideration of the requirements.

Over a long period of time the enterprises have become accustomed to a relatively high degree of stability, but now they must regard as natural the requirement of effective management that flexibly adjusts to changes in the external and internal conditions. The security that far-sighted management demands must be provided basically by the enterprises themselves. Central management must, of course, provide the enterprises with the assitance necessary to this end. Central management can do this basically by catching up more closely with the stricter requirements.

1014
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SITUATION OF HARD CURRENCY EXPORTERS ANALYZED

Budapest FIGYELO in Hungarian 15 Jul 81 p 5

[Report by Mrs Katalin Fazekas-Kovacs, "Profitability and Growth In Non-Ruble Exports"]

[Text] The past year's slacking foreign market demand, resulting from the worsening world economic situation, had a breaking effect on the dynamic growth of exports. In order to evaluate the degree to which the enterprises were able in 1980 to reach, under increasingly difficult conditions and within the framework of the 1980 modification of the price and regulating system, the results expected from this modification (the increase of profitable non-ruble exports, the improvement of production structure and the increase of efficient production), we looked at the export and profit situation of 80 enterprises which are doing most of the non-ruble exporting. (The 80 enterprises with the largest export quotas were selected on the basis of 1979 data.) These enterprises did 85 percent of the non-ruble exports. The enterprises surveyed had a 57 to 97 percent share of the respective industry's exports and thus the industries are well represented.

Higher Revenues

The largest industrial exporters increased their non-ruble exports by 5 percent in 1980 which is hardly different from the increase in the industry as a whole. The entire volume of the exports increased moderately and decreased in metallurgy and in light industry.

Only the surveyed mining and chemical enterprises, i.e., the relatively large exporters were able to increase their non-ruble exports more substantially. In the machine industry and the light industry, on the other hand, the exports increased substantially in those enterprises which were not surveyed, i.e., in those with relatively small exports.

The reason for this is probably that the latter two industries' enterprises that were surveyed, even the profits from non-ruble exports* were lower than in the respective industries as a whole. Profitability in the machine industry's largest exporters was 6.3 percent, in the entire branch it was 7.5 percent; in the light industry, it was 11.7 and 12.4 percent, respectively.

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* Export profitability = the relationship (in percentage) between export production and all the revenues from the sales abroad.

The relationship between the enterprises' non-ruble export profitability and the dynamism of their exports becomes much clearer if we look at it according to degrees of profitability. Enterprises with more profitable exports increased dynamically, those with losses or low profits increased only slightly or decreased their exports.

The average of 9 percent profit of the largest exporting enterprises' 1980 exports had an extreme differentiation between the enterprises. One-seventh of the enterprises had very high, 32 percent export profits.

Similar to the industry as a whole, most of the largest exporters had smaller non-ruble export profits than last year. (The only exception is the food industry.) The chemical industry and metallurgy had the most significant decrease of last year's quota.

Changing Profitability

Of the largest exporters, 63 had less export profits than last year.

Twelve of them had a large decrease, in excess of 20 percent. Most of these were chemical and metallurgical enterprises. This is connected to the fact that these two industries had the highest losses in profits.

The largest exporters--just like the industry as a whole--were able to realize the objective of making non-ruble exports more profitably than domestic trade; the profits of the former are more than twice as high as those of the latter. However, this tendency, which is apparent in the various industries, developed in the individual enterprises as an average of the reciprocal differences between the two markets.

In comparing individually the profits of the largest exporters in some industries (in the machine industry, the chemical industry and the light industry) resulting from non-ruble exports and domestic trade, the following becomes apparent:

-- of the three industries' enterprises surveyed, 18 had a small (5 percent) difference between the profits coming from the two markets;

-- the above difference is more significant in the case of the majority of enterprises (39).

The direction and degree of the differences at these enterprises are shown in the table below:

Differences Between Profits Resulting From Non-Ruble Exports And Domestic Trade in 1980

Difference, in %	Number of Enterprises in		
	Machine industry	Chemical industry	Light industry
Enterprises with lower exports than domestic sales			
-- 20 and below	4	2	-
-- 10 to 20	-	2	-
-- 5 to 10	4	1	-
Total	8	5	-
Enterprises with higher exports than domestic sales			
-- 5 to 10	3	2	7
-- 10 to 15	2	3	4
-- 15 to 20	2	1	1
-- 20 and above	1	-	-
Total	8	6	12

There are 12 enterprises in the light industry where export profits are significantly higher than domestic profits; there was no reversed difference in this branch. In the case of most of these enterprises, however, lower domestic profits also mean lower export profits.

In the machine industry and the chemical industry, half of the enterprises had more, and half had less non-ruble export profits than domestic profits. The illustrated difference between the two markets' profits means that the enterprises have a limited interest in boosting their export profits. The world market has a one-sided effect on the domestic users of their products; however, as producers, do not sense the world market's value system.

It is a basic task to improve the profitability of non-ruble exports. This requires more economic pressure resulting in more efficient management and a more favorable export structure.

Enterprise Output

The 1980 changes in the profitability of non-ruble exports, described above, is closely related to the management of the exporting enterprises.

In the food industry, where half of the selected enterprises increased their export profits, the large exporters' profits increased more (by 72 percent) from last year than the industry's other enterprises (by 58 percent). On the other hand, in most of the industries, decreased export profits are related to a decreased output by the large exporters (which reflect the degree of their interest) when compared with enterprises which are less export-oriented. In the machine industry, for example, the output of the large exporters was 47 percent less, and that of the industry's other enterprises was 35 percent less, than in 1979.

Thus the output of the 80 largest exporters was greatly affected by the changes in export profitability. The selected enterprises decreased their output since 1979 more rapidly than most of the other enterprises which decreased their non-ruble exports. For these enterprises were exporting with great losses or lower profits than the previous year's.

Most of the enterprises which greatly increased their non-ruble exports, decreased their output although at a rate slower than average. This is connected to the fact that profits decreased even for those enterprises which had the highest export profits.

The relationship between export profitability and enterprise output shows that the situation of the export-oriented enterprises became worse in 1980. The exporting activity of the largest exporters show that the increase of the industry's profitable non-ruble exports played a smaller role in the improvement of balance than planned. Most of the enterprises tried to reach their goals related to profitability and increased revenues by stopping unprofitable exports. Thus in many cases the decreased exports were by themselves enough for the enterprises to show an adequate export profit.

Last year's experiences show that the enterprises were not forced enough to explore their internal resources for the improvement of the efficiency of their management and for a better export structure. However, all of this is an indispensable requirement in today's world economic situation which is expected to become even worse; it is a basic requisite for the implementation of national economic goals.

9414
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MANPOWER POLICIES, EMPLOYMENT PUT IN PERSPECTIVE

Budapest FIGYELO in Hungarian 29 Jul 81 pp 1, 4

[Article by Ferenc Munkacsy: "After the Change, Before the Change"]

[Text] Full and effective employment is the dual goal of the Sixth Five-Year Plan's employment policy. Some "unusual" processes have started to operate recently, and knowing about these causes some experts to question whether this dual goal can be implemented simultaneously.

The number of active wage earners decreased during the time period of the Fifth Five-Year Plan, for the first time in decades. A trend we have gotten used to for a long time has also reversed itself in industry, the construction industry and agriculture. Employment which in the past grew rapidly in industry and in the construction industry first became stagnant, then perceptibly decreased. Employment in agriculture, which until now steadily decreased, on the other hand started to increase at the end of the plan's time period, even though probably only temporarily. Moderation of the manpower demand, and the relative increase of manpower migration at the initiative of the employers, were new phenomena in the last 2 years.

My opinion is that more detailed analysis of the processes which took place, and differentiation between phenomena with long-range effects and the temporary ones have great significance. The reality of maintaining full employment and at the same time improving efficiency can perhaps be better evaluated on this basis.

Industry, the "Loser"

In recent decades social policy has been the decisive motivating force behind the state's activity influencing the supply and demand of manpower, and thus the economic policy viewpoints were necessarily forced into second place. Due to the policy deriving from the need of implementing full employment as soon as possible, and from the extensive-type growth, the demand for manpower broke away for a long time from the actual needs, and the manpower supply policy also developed independently.

There is no question that this manpower policy was necessary and unavoidable in the original period of economic development, but by the early 1970's it had become untenable. The supplementary manpower resources had been exhausted, the world economic environment had undergone radical changes, and because of these, increasing the efficiency became a "question of survival." The general overdemand for manpower became the source of greater and greater social and economic tensions. And, to top it off: the overemployment which developed in most production areas, decreased our competitiveness. (It should be noted that overemployment was characteristic primarily in the industry and in the large-scale industries, while shortages developed in the delivery of services and in the area of smaller operations, which in turn led to further tensions, and tensions of other types.)

Thus by the mid-1970's, modification of the economic directives concerning employment became unavoidable. Bringing the manpower demand closer to the actual needs received more emphasis than before. Modification of the economic regulators also reflected this requirement, but noticeable changes also occurred in the ideologies of the regulatory and social organizations. The "shortage psychosis" subsided and became more bearable.

Attraction of the manpower to areas which until now were unjustifiably lagging, now improved due to various central measures, and to the effect of the monopolistic situation deriving from the shortage: a regrouping of the manpower began, the "loser" of which was industry for the first time in decades. Due in part to the effect of economic regulation, the industrial enterprises understood the need for manpower reductions, which--and this is not unimportant--took place for the most part through passive behavior of the affected economic operating units. Taking active steps to consciously cut the excess manpower was not the typical way this occurred.

The regrouping was regulated by the attracting powers of the "receiving party," thus the process did not lead to unemployment. And because the industrial enterprises did not want to replace some of those who quit, the whole process resulted in a general decrease of manpower demand. And in the final analysis the demand shifted towards the actual need.

All this occurred independently of the change in the economic growth rate. A shift of this type would probably have been unavoidable even if the earlier growth rate had been maintained. But due to the effect of the pressing external circumstances, the dynamics of industrial and construction industrial production significantly decreased. Inasmuch as improving the efficiency of manpower utilization is justified even under such circumstances, it must be assumed that when production just barely increases or even stagnates, the actual demand for manpower will decrease.

Thus during the period when the demand for manpower was to some extent adjusted to the actual needs, the need itself probably also decreased. Therefore there was no sharp improvement in the efficiency of manpower utilization. However, on the other hand it is also true that if the change in attitudes concerning manpower demand had not preceded the slowdown in economic growth, that is, had we managed manpower the old way even under the changed circumstances, efficiency would have significantly deteriorated. Thus, realizing that we witnessed two simultaneous processes here which for the most part were independent of each other, is part of the realistic evaluation.

Questions Awaiting Answers

Outlining the manpower situation expected for the near future is not a simple task because of the above-mentioned contradictions. The least certain factor is the actual manpower need. It is not my job to take a position in this, but I predict that among other things the answer will have to be found for the question of whether the reduced growth rate of industrial production is a temporary or a lasting process? The relationship between economic growth rate and the expected increase of productivity is also unclear. Even a superficial analysis of the available data shows that the assumption according to which the dynamics of productivity can be shaped independently of production's growth rate is in error. This is because the opportunities and conditions for increasing productivity are entirely different in a stage when economic growth is rapid, and in a stage when production is expanding only moderately and when the area of investing is limited. It should also be clarified whether the productivity index calculated simply as the ratio of output to employment is at all suitable to express the effectiveness of manpower utilization.

Even with these open questions we can take a position that the demand for manpower even today significantly exceeds the actual needs and, of course, also supply. Overemployeemnt is still characteristic for most of the industry and construction industry. For most of the industry and construction industry the goal is to decrease the demand for manpower, mainly by moderating manpower utilization. But it has not been proven yet whether this tactical element of the employment policy can become the strategic goal of the future.

Attention must also be called to the fact that changes will take place in some of the conditions which influence the employment policy. It can be expected that the appeal of areas which until now have exerted a strong pulling effect on industrial manpower may perhaps decrease compared to the past. That is, from the viewpoint of increasing efficiency it is no longer enough to simply acknowledge the spontaneous decrease of employment, but conscious initiatives must be taken to increase the efficiency of manpower utilization, and where the economical activity can not be expanded surplus manpower must be reduced.

Pay Attention to the Requirements

It is a fact proven in many different ways that enterprises naturally strive to stay alive and even grow, consequently, active steps to decrease employment are essentially foreign to the past behavior of the enterprises. Thus basic condition of efficient employment is for the directing economic authorities to force the implementation of this activity which is important to the national economy but disliked by the enterprises. Last year's production and employment data indicate that this pressure is not strong enough.

However, not only the behavior of the enterprises but also public opinion about manpower migration can be obstacles to implementing the efficiency requirements. We can expect more active migration in the future since the "macrostructural changes" we already discussed, will have to be supplemented by "microstructure changes" resulting from modifications of the product structure. A brisk manpower turnover in itself would not yet mean a source of tensions since this has been characteristic already in the past. The difference stems from the essential fact that we must increasingly take into consideration the decrease in demand worldwide for manpower. It is very probable that a portion of the justified migration will take place in such a way that the workers change employers or occupations not voluntarily but as a result of pressing economic circumstances.

Unemployment Psychosis?

During the era when manpower was generally in excess demand, the majority of workers were in a favorable situation. They were able to pick and choose among employment opportunities. Thus the migrating manpower "increased in value," and often a change in occupation or employer involved significant financial or other advantages. As the excess demand decreases worldwide the previously attainable advantages will also become smaller or may even be eliminated. Many [workers] will feel slighted by this.

Decreasing the excess supply of manpower in itself also cause local social tensions, without even approaching the world equilibrium. This is so because the need for manpower does not change evenly in the individual geographic regions, or occupations (that is, on the "partial markets"): in one location it may significantly decrease, while in another area it may actually increase. Considering the fact that the transition is difficult between the individual segments, it can easily happen that a noticeable oversupply develops in certain "partial markets," and the automatic mechanisms to handle them are not there--due mainly to the public opinion. But in other areas the excess demand for manpower may remain.

The excess supply which develops from time to time in certain areas of the manpower market requires the state to take steps to maintain full employment. These steps may result in maintaining a manpower demand which exceeds the actual needs (that is, which relaxes the efficiency requirements).

Maintaining full employment is a basic achievement of socialist society. So much so that in case of a conflict between full and efficient employment, the former enjoys the advantage. But the timing when these two requirements are made to confront each other, is not immaterial: Whether this is done when overdemand otherwise characterizes the partial manpower market for the most part, or when the global employment equilibrium is near. If the manpower market is rigid, then full and efficient employment may be in an actual conflict with each other. We cannot expect this to happen within the foreseeable future if the favorable social conditions exist for implementing the necessary manpower migration.

Thus the key question of the manpower situation in the near future is whether the socially necessary mobility which also insures a simultaneous increase in the efficiency of employment can be implemented while maintaining full employment. As a result of the earlier, extensive growth stage, the social conditions are not yet fully available for this. Creating the necessary conditions is a complicated and thankless task because it requires changing old attitudes, but this is unavoidable under the changing circumstances.

8584
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BRIEFS

ECONOMICAL CORN DRYING--The joint enterprise of the collective farms for the industrial-style raising of hogs has evolved an energy-conserving process for corn processing. Results at the farms where it has been tested are encouraging. The process consists of three parts. The first calls for early-maturing corn which can be harvested before the Fall rains and which is therefore low in moisture. Next, a special device pricks the shelled corn thereby enhancing its ability to release moisture during drying. Finally, an ingenious method is used to recirculate and reuse the steam generated in the course of the drying process. It costs 60 forints worth of fuel oil to dry 100 kilograms of corn by traditional methods. Two-thirds of this cost are saved under the new method so that drying a quintal costs only 20 forints. By next year, 30 hog-raising collectives will be able to adopt this method of handling corn for hog feed. [Budapest MAGYAR NEMZET in Hungarian 8 Aug 81 p 3]

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